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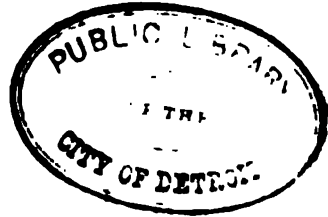
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THE

AMERICAN ANTIQUARIAN

AND

ORIENTAL JOURNAL.

VOLUME III—OCTOBER, 1880, TO OCTOBER, 1881.

EDITED BY REV. STEPHEN D. PEET.

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No. I.

THE American Antiquarian

A QUARTERLY JOURNAL DEVOTED TO

Historic and Prehistoric Archaeology.

EDITED BY

REV. STEPHEN D. PEET.

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We commence with this number the third volume of the AMERICAN ANTIQUARIAN.

The magazine will be under the same control as heretofore, the business management being in the hands of JAMESON & MORSE, 161 Clark St., Chicago, Ill., to whom all subscriptions should be sent, the editorial work being under the charge of Rev. STEPHEN D. PEET, of Clinton, Wisconsin. The same variety will be given in subsequent numbers, including Contributions, Correspondence, Editorial Notes, and Book Reviews, and in addition, a special place will be given to the general review of the Literature of Archaeology, the review being mostly made up of gleanings or quotations from recent books and magazines.

We are expecting some valuable contributions in the line of Aboriginal History, and Early Explorations, also upon Native Traditions and Mythology, and shall endeavor to keep our readers informed in the progress of discovery in the United States, Mexico, and other countries. Our hope is that in the future more attention will be given by our contributors and correspondents to the topographical and geological surroundings and the distinctive points in the relics and monuments and other tokens of each locality, so that an intelligent view may be gained of the whole paleogeography of this continent. The comparison of American with foreign relics, and a description of their uses, as well as a more general history of the prehistoric and historic arts and inventions, will also be desirable.

The same associate editors will continue to have charge of their special departments. Linguistics being assigned to Mr. A. S. GATSCHET; Pre-Columbian History to Prof. R. B. ANDERSON; and Anthropological News to E. A. BARBER. Other gentlemen have also engaged to furnish notes and reviews. Prof. John AVERY, of Bowdoin College, having consented to furnish items concerning India; Rev. O. D. MILLER favoring us with frequent communications on Assyriology; and Rev. Selah MERRILL, D. D., of Andover, making his specialty the Archaeology of Palestine. We are happy to announce that many valuable contributions have already been received. We have no doubt that the Magazine will continue to give us good satisfaction as heretofore, and we predict for it a successful and prosperous future. Subscribers will remember that our terms are \$3.00 per Year, *Strictly in Advance*, and favor us with prompt remittances.

STEPHEN D. PEET, Editor.

JAMESON & MORSE, Publishers.

TESTIMONIALS.

Its plan is intelligent and comprehensive. *Literary World.*

Devoted in all sincerity to honest and thorough work, which is performed with ability and zeal, discussion also being free, with truth as the object. *The Churchman*, N. Y.

This serial is both interesting and able. *Western Christian Advocate.*

Any intelligent American may take pride in this publication. It is truly a fact for congratulation that in the midst of our richest antiquarian region, a quarterly is published whose editor is on the continual look-out for discoveries to illustrate the prehistoric events of this continent, and to secure the services of the ripest pens to treat the facts of its ethnology and archaeology. *Daily Inter-Ocean.*

Beautifully printed, as all the Transatlantic magazines are, the AMERICAN ANTIQUARIAN is a quarterly publication of especial interest. There is about our European, and especially our British archaeology a certain monotony. The novelty of our discoveries is losing its gloss, but Prehistoric America is to us a region of romance and wonder pretty similar to what the New World was to the Elizabethan mariners. Not the least interesting portion of the magazine is the correspondence, in which a number of writers accumulate much curious information regarding burial customs, and give valuable details respecting burial mounds in several parts of the States. The AMERICAN ANTIQUARIAN deserves to be widely known among English readers. *Liverpool Gazette.*





WILD OATS USED AS FOOD BY THE ABORIGINES.

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THE AMERICAN ANTIQUARIAN.

VOL. III.

1880.

No. I.

THE EMBLEMATIC MOUNDS, AND THE TOTEM SYSTEM OF THE INDIAN TRIBES.

BY REV. STEPHEN D. PEET.

Prepared for the Wisconsin Association of Arts and Sciences, and Read before the French
Association for Advancement of Science, September, 1880.

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It is well known that the State of Wisconsin abounds with a certain class of earth-works which have generally been called by the expressive name of emblematic or effigy mounds. The peculiarity of these structures is that they resemble the forms of various wild animals, and though often massive in their dimensions, still perpetuate in their outlines complete figures of the creatures which once constituted the fauna of this region. No other State so abounds in these emblematic structures. There are many other earth-works scattered throughout the whole valley of the Mississippi. Among them five or six classes have been distinguished, all of them having characteristics of their own, and each class being peculiar to a certain geographical section. For instance, in the State of Ohio there is a great system of earth-works which presents all the characteristics of religious or sacred structures, such as pyramids, altars and sacred enclosures, parallel walls and graded ways. In Illinois and Indiana there are also found earth-works of various kinds, the tumulus, or the burial mound, being the commonest type. In the State of New York, in Northern Ohio and in some parts of Michigan, there are found military works, such as the circular enclosure, with its wall and ditch, and, occasionally, the traces of palisades and other defenses, so that we say that the military is the type peculiar to these localities. In the States of Georgia and Mississippi there are many massive pyramids which are generally regarded as distinctive. But in the State of Wisconsin the works, which are peculiar to the soil and distinctive of the locality, are the emblematic mounds. There are, to be sure, a few emblematic mounds in other States, as for instance the well-known

Alligator Mound on the hill near Granville and Newark, Ohio, and the great Serpent Mound, in Adams county, of the same State. Hon. C. C. Jones, of Augusta, Georgia, has also recently called attention to the existence of mounds in the shape of birds in that State, but these are exceptions and cannot be regarded as constituting a system.

It is singular that the emblematic mounds should be so strictly confined to the geographical limits of this single State. The imaginary line known as the southern limit of Wisconsin certainly forms no geographical or physical barrier which should make a separating boundary between the ancient races. The barriers of nature which are presented by Lake Michigan on one side and by the Mississippi river on the other, might have separated the pre-historic inhabitants and to a degree isolated those dwelling in Wisconsin from those to either side, but to the southward scarcely a shadow of difference can be discovered. The same soil and scenery extend in this direction far beyond the limits of the State and the geographical characteristics are nearly the same throughout the several States surrounding. Generally, too, the pre-historic settlements follow the course of the river, the mouth and the head streams being marked by especial groups of earth-works, yet both belonging to the same system. But so far as known, the emblematic structures here cease before the mouths of the river are reached, and the State itself seems to be the boundary.

In the State of Ohio there are two different classes of works, each following the different systems of rivers and only separated by the watershed. Upon the streams which flow to the northward into Lake Erie the works are exclusively of a military character, consisting of circular enclosures surrounded by earth-walls and a few tumuli. On the rivers which flow to the southward into the Ohio, the works are of a religious character, consisting of circles and squares, sacred enclosures and temple platforms. But in Wisconsin the emblematic mounds extend over the whole State, apparently without regard to the river system.

Although they are situated generally near bodies of waters and are seldom found at any great distance from them, yet in their shape and apparent connection they seem to present an adaptation to the topography of limited districts much more than to any extensive water course.

As is well known there are two different systems of water courses in this State. The Fox, Wolf and Wisconsin rivers traverse the northern, or, geographically speaking, the central portion of the State, while the Lower Fox, Rock, Craw-Fish and Sugar rivers drain the southern portions of the State. In-

terspersed among these are the small lakes such as Winnebago, Horicon, Koshkonong and the four lakes near Madison. Now, along the banks of all these bodies of water and their branches, strange effigies are found, making often a very mysterious feature of the landscape. Everywhere on the banks of all these streams and lakes we find the same general class of structures, showing a wonderful homogeneity to the whole system. Whatever minor differences there may be in the particular form of the emblem, this is the one striking peculiarity that the emblematic type is universally prevalent throughout the State.

It would seem that whoever they were who built these works, they were a numerous and wide-spread people, and that they were homogeneous both in their mode of life and in their religious and social customs, and probably were a united people. It is probable also that their occupation was long continued, for their works give token of a permanent and peaceful settlement.

There are not, to be sure, the evidences that this people had reached the permanent village life such as we discover in certain other regions, as for instance in Ohio, in Georgia, Mississippi and other States to the south, yet it is probable that they had long dwelt here undisturbed and free to erect their homes, to worship their divinities, and to bury their dead, for many generations.

There may have been a reason for the continued residence of the same people in this territory. The geographical situation of the State may account for it in part. For a prairie State, it is one of the most isolated. Though less protected by surrounding bodies of water than the lower peninsula of Michigan, which is generally heavily wooded, and less protected by barriers of mountains than some other sections, yet there is no doubt that the broad expanse of Lake Michigan to the eastward, the stormy waters of Lake Superior to the northward, and the wide current of the Mississippi to the west, were barriers which separated the people who dwelt here from others and kept them free from the incursions of savage foes. One thing is at least remarkable, there is an unusual absence of defensive structures among the earth-works of this territory, and those which are found, such as those at Aztalan, were apparently designed to surround the villages of a peaceful and agricultural people. We cannot believe that a fiercely warlike and predatory people like the Iroquois would have remained long enough within confines of such a territory to have marked the soil which they inhabited with the signs of their tribal system, though it were ever so finely developed. Other tribes which have been known have been too changeable and too migratory for this result. All that region to the south of this extending from the Mississippi to

the Alleghany mountains was constantly traversed by hostile races, and the only place where a permanent location seems to have been secured was in Ohio, where the evidences are that a comparatively high state was reached. We may suppose, then, that the pre-historic people of Wisconsin, in their isolated position, had the best opportunity to develop their ideas as to mound building, and that here was the beginning of that system which developed elsewhere into more extensive and different structures.

Their organic growth had probably reached just that stage where the tribal system was most fully developed. The communities which have so left the marks of their habitation on the soil were no mere hunting or wandering people, which erected their huts for a day and then were away again for other regions. This constantly unsettled condition would not consort with the multiplicity of these structures, and, in fact, would hardly be favorable to the erection of any earth-works. When tribes have been broken up in their residence and have begun to follow the nomadic condition, there we find the habit or custom of mound building soon ceases. A hunter's life is also unfavorable to this custom, and we must, therefore, predicate of the people who erected these works at least that mingled life which we find among the savages of America when the occupation of hunting and fishing is joined to the more sedentary pursuits of the cultivation of maize and to the beginning of a village life. There are places in the State of Wisconsin where there are the strongest proofs that the Mound Builders were engaged in agricultural pursuits. Not only are there so-called garden-beds and the extensive corn-fields in their immediate vicinity, but the relics are found within and about them which indicate a peaceful and somewhat settled condition of life. The presence of corn-fields are to be sure no proofs on this point, for they are evidently the works of the later Indians, and it has been maintained that the garden-beds are sometimes discovered going over or covering the mounds themselves, thus showing that they were of a later date than the mounds.

Dr. Lapham, in his *Antiquities of Wisconsin*, has given as his opinion that there are three ages in the pre-historic occupation: 1, that of the Mound Builders; 2, that of the garden-beds; 3, that of the corn-fields and later Indians. But that the emblematic mounds were erected by a different people or during a different stage from the mingled agricultural and hunting state which have characterized nearly all the later tribes of this latitude, would be difficult to prove. The relics which are discovered among the mounds indicate that they were in the agricultural state. The relics most numerous in Wisconsin are not only the arrow-heads, which are so well known to military

life, but the stone ax and hammer, chisel, gouge, flesher, and other relics peculiar to a settled life, are found, while the tokens of copper, such as the knife, spade, chisel, awl and drill, are common.

No State in the Union has presented a larger number of copper relics, and the collection now gathered at the Historical Rooms, at Madison, has become celebrated as the finest collection in the world. These copper relics and the emblematic mounds are not necessarily connected any more than the garden-beds and the mounds are, but they are certainly worthy of study, as both are peculiar to the State. It has, indeed, been maintained that copper relics are not peculiar to the Mound Builders or to the ancient races, but that they are quite modern, having been found in the hands of the Indians at the time of the discovery, and even later; but it must be remembered that the ancient mines of Lake Superior were not very far away and that there are evidences that the working of these mines might have been quite as ancient as the structure of the mounds. The desertion of the mines and of the mounds cannot be assigned to any particular date, but judging by the signs which attend them both, it is not difficult to say that they were cotemporary in their occupation. The presence of emblematic mounds and of the mines in the same region and the finding of so many copper relics in the same State, are at least suggestive. The number of copper relics in this region compared with those found elsewhere are at least worthy of notice, and the habitat of the emblematic Mound Builders may well be studied with the relics and the structures associated.

It is noticeable also, that the same general features of the landscape existed at the time of their erection that still exist. Sometimes the views from the mounds are obstructed by the growth of later years or by the presence of houses and trees which have been set out since the settlement by the white man, but even the original intent of the location of the mounds may be discovered. If there had been any change in the face of nature since the erection of these works it would not now be possible to study the works with any understanding of their significance or their intent; but with this idea of the uniformity of the surroundings we may indeed discover the object of their erection.

It sometimes seems as if the very face of nature had become transfixed. As one gazes upon the scene where these strange monuments of the past appear, a strange spell comes upon the mind. One becomes blind to the works of man and to all the advance of civilized life, and is placed again in the midst of the wild scenes. The rivers and lakes, the forests and the prairies,

bear no mark of the white man's foot, only the wild hunter roams over the hill and valley, or the strange people inhabit the soil, and the wild animals are still haunting the land. As one divests himself of all modern associations and amid the scene itself throws his thoughts back to the primitive state when this region was inhabited by the people who erected these strange structures, it is easy for him to understand the works, and to learn what and why they were, and what they were intended to represent. But the scene must have been the same or the spell could not come upon one, nor the key to the dark problem be given into his hands. If occasionally a stream has changed its channel, and, perhaps, a tree has grown upon the banks; if a lake, or marsh, or river, has disappeared and its bed left dry; if prairie and forest has changed places at times, yet the view of bluff and valley, of stream and forest could not thus suggest the life, and the scene and the works so correspond unless the general features of the landscape had been retained and the very same surroundings were still retained which existed when this mysterious people dwelt upon the soil. The aspects of prairie and forest, of stream and valley are exactly as they were, and the distant prospect and the nearer view come before us eloquent with the past and full of meaning.

But the most remarkable thing about the emblematic mounds is not that they are found in a distinct territory or region, or that they are associated with so unique a class of relics, but it is that they should be found in such strange forms and shapes. They are certainly very mysterious, and yet suggestive. One who wanders among these structures is surprised to find himself in strange company. The wild animals which once roamed the prairies or prowled among the forests have long since passed away, scarcely a solitary individual can be found living within a thousand miles, but here they are in all their weird wild attitudes, their number and variety making a sensation of fear as we find ourselves in such dangerous proximity. Like shadows upon the ground, or more like the spirits of the animals themselves springing from out the soil, they haunt the very scenes which they once trod and the attitudes which they assume are so natural, so true to life, that we may easily imagine them to have come to life again.

Here, is perhaps a buffalo with head erect and feet extended, or with horns lifted high in the air and nostrils snuffing the breeze; there, is a bear, or wolf, or wild-cat prowling along the bluff. In another place there appears a gigantic turtle, or a lizard, or a serpent, apparently having just drawn their huge shape from the stream to the summit of some hill. In another place the eagle, the hawk, or the crow, appears with wings ex-

tended and head erect. It has even been maintained that the alligator and the elephant are seen making up the novel group as representatives of a class which has long since become extinct or which are only found in different surroundings. A strange collection, indeed. A menagerie of wild animals tamed and kept upon the prairies, or else chained and sleeping in some grand coral.

The builders of these mounds were true artists, for they have thrown a soul into their attitudes and made them expressive of the spirit as well as given a wonderful likeness of the animals which they represent. The souls of the animals appear in the forms and at the same time the forms seem to give soul to the landscape. Often they are of such gigantic size that the eye almost loses the form which they were intended to represent, but as they are studied more closely their outlines still maintain the striking resemblance which is their chief and distinguishing trait.

Long lines of animals follow the trend of various hills, or large groups answer to one another on the hills, or respond to others in the valley below. There are evidences, too, that even distant groups were placed by those who erected them in just such localities as would command an unobstructed view, and that thus group answers to group and mound to mound for miles away, making a complete system throughout the land. Not only this, but there was a strange skill exercised in their erection which was able to impress upon them something more than a mere animal resemblance. The massive forms impress the most careless observer as skillful imitations, but to a more thoughtful mind they are suggestive of a still deeper meaning. Situated, as they often are, on the most prominent points, they people the scene with a living and yet it is not altogether an animal presence. Each form or figure is made to express the very life of the people who once dwelt here. They give a picture of the pre-historic condition of society which nothing else can give.

It is to this deeper meaning contained within the figures or emblems that I would now call especial attention. There are those savages to-day who believe that everything is filled with a soul and that all material and animal forms are but the embodiment of an unseen presence. With some there is a strange mingling of ancestor worship with this so-called animism, or soul-possession. The ancestors of tribes are animals and yet they are divinities; the souls or spirits of certain animals being the ancestor or creator both of all animals and of men. This strange conception has made the forms of these particular animals sacred to the different tribes, and their life is seldom taken. It is not always the same animal which is regarded as the tutelar

divinity and ancestor of the whole tribe, but each clan has its own presiding deity. Thus every tribe has a number of totems or tutelar gods, but they are always the forms or spirits of the animals which are peculiar to the country. Even each clan having its own animal divinity does not prevent other tribes from naming their clans from the same divinities, but oftentimes the same animal will be sacred to tribes which are far removed and which have no immediate connection. The repetition of these names of animals among the different tribes of Indians so far apart would show that there was a connection in the religious symbols or deified ancestry of these tribes, though it may be too far back to trace it historically. This totem system belonged to the ruder stages of society, and, to a degree, disappears as the higher stages are reached; yet it is one of the strongest elements in the native religions and seems to be at the basis of nearly all tribal organizations, and has even been traced to the early stages of society in the Old World.

It is probable then that it was this religious motive which ruled in the structure of these mounds, and the thought that they were the emblems of the tribal divinities and at the same time the signs of the tribes themselves, may not be far from correct.

We have then, in the totem system which was generally prevalent with the wild tribes of the north, the explanation of the object for which these structures were erected. If the works are studied with this idea in view we believe that their shapes will be found to be full of significance, and reasoning from the historic to the pre-historic we shall find the explanation. The mounds are hieroglyphics, a picture-writing upon the earth; in fact a symbolism, the key to which may be found in this system, which survives in living races. There are groups of mounds which can be explained in no other way. If we grant that a remarkable military system is also perceptible in these works and that a series of signal stations may be found in many of them, yet these features are so common in all localities and so marked in every group and cluster and individual mound that we cannot fail to recognize them as the ruling element. The various figures or emblems are so often repeated and so uniformly associated that they become striking indications of some such system.

It is surprising, when one comes to classify and analyze these forms, to find how similar they are, and how much order is observed in their construction. To the superficial observer these works seem to be without order, and their forms are regarded as merely accidental, constructed in the shape which the fancy of their builders directed, the resemblances to animals being only results of a love of imitation, but in fact there is a wonder-

ful depth to the system. A great uniformity may be seen amid the diversity, and when studied order comes out of the confusion. Though the shapes are varied and numerous, yet there are typical forms which go through all the varieties and appear in nearly every locality. There is the same repetition of animal forms in various localities that there is of animal names in the various tribes among the living races. Everywhere we have found these forms repeated, and frequently the different groups of certain localities will only be the repetition of others in other localities the same forms being common to them all. If in the groups other forms or shapes do appear, they are marked as strange or unusual. Of the large number of groups which we have examined we found the most common forms are the turtle, a long tapering mound resembling a pickerel or a snake, the wolf also, and certain other mounds the resemblance of which to any known animal it is difficult to trace.

It is remarkable that these typical forms should thus appear in so many localities, but that other forms should appear also mingled with them; but we might say that the tribal system, with its accompanying signs or totems, would require just such a fact. The same tribe would move from place to place, and if it left its own tribal signs we should find the repetition of the same totem or tribal emblem, each clan always continuing the same sign; but if the tribes were different in the different localities, the signs would also be different. Locating the tribes then on the different streams we might expect these different emblems in the various localities. Sometimes this assumes almost the character of a river system and thus we might trace what seems to be the beginning in this country of that which prevailed in classic soil and Oriental regions, namely, river gods and tutelar divinities of certain regions, each tribal divinity having its own province over which it ruled and on which it left its own form or figure as the seal of its power and the emblem of its worship.

To illustrate: there are works on the Rock River, near Beloit, and elsewhere, which abound with the turtle, the lizard and the other long tapering mounds which it is difficult to name, while mingled with them we find occasionally the form of the buffalo, the hawk and the wild pigeon.

In the vicinity of Lake Koshkonong, thirty miles northward, on the same stream, we find also the turtle, the lizard, the hawk and pigeon, but we find the wild goose and the crane associated.

On the Fox River of the South we also find the turtle the prevailing figure and other forms associated with it. But as we pass away from the Rock River to the Fox River of the North, especially in the vicinity of Green Lake, we discover that the wolf, or the panther and the wild cat, the pre-

dominant type, while the turtle is entirely subordinate, and mingled with these are the mink and weasel and many other varied forms, thus indicating that either different tribes or different clans of the same tribes inhabited these localities.

It should be said, however, that the study of these different groups of mounds throughout the State has not been carried out sufficiently to affirm that any river system can be traced, nor has any definite system of tribal totems been recognized in the different groups. Still the ruling type of the separate localities can be easily traced, and we have no doubt that as the classification and analysis of the different forms shall go on that we shall yet discover this universal totem system of the living tribes clearly and beautifully fixed in these strange earth pictures of this State. It is certain that the forms of these emblematic mounds were placed in their various positions for some purpose and that there is some significance in their very outlines, and it seems most reasonable that the explanation of this may be found in the totem system.

The relative position of the mounds is at least suggestive of this. For instance, the gigantic size of some particular effigy and its relative position, either in the center of the group or at a little distance from it and isolated, will frequently express the idea of superiority, as if the being which it represents was a king, superior to the tribe. No group of mounds is without some such ruling spirit, and oftentimes the isolated position of the figure as well as its size show that the separation of power was recognized even among these strange people. While each group has its many and its varied forms, yet some one form among the many may always be recognized as a ruler of the group. This common type or ruling form is everywhere present and may be regarded as the tutelar divinity of the scene. It is not necessarily the case that the same divinity was the ruler of every tribe. There evidently was a number of tribes who built their mounds, and each tribe would doubtless have its own distinctive totem. If the various tribes were ruled by different tribal divinities, then we would suppose that the typical mounds of one locality would be different from that of another, the turtle, perhaps, ruling over one stream, the eagle over another, or the wolf or wild cat over another, while the inferior divinities which ruled each class would appear in mounds less prominently situated and yet always associated under the same ruling type. These various emblems which are so often repeated and are so uniformly associated, are at least suggestive of the combined clan and tribal system, and the thought of tutelar divinities may have been recognized among the pre-historic people. Every place where the mounds appear there is the repetition of certain forms, and

at the same time the prominence of certain other forms over the rest of the group, so that we are almost compelled to recognize the evidence of the tribal presence and sign in every locality where they made their dwelling place. If at times there are groups of mounds which so present the animal forms that some other design must be ascribed to them, yet this does not conflict with the theory that the totem system was here inscribed.

There are, indeed, localities where the animals take such picturesque attitudes and have such a relative position to one another that we are led to read another story. We have referred to the long lines of animal forms which are seen following the trend of certain hills. These solemn processions are among the strongest features of the emblematic mounds. Long rows of these mounds are seen containing the shapes of the strangest animals, such as the buffalo, bear and the wild beasts of the forest; also eagles, hawks and the various birds; lizards, turtles, serpents and various reptiles; yet every animal retains an attitude which is expressive, and the whole train seems to tell some tale which we can almost catch as we gaze at the silent shapes. There are groups where the attitudes are expressive of a more varied action, certain animals like the weasel or mink being seen with a bird so near that a single spring might be supposed to catch it, and still others like the wolf or wild cat are arranged head to head as if prepared for combat, and still others like the coon or squirrel are in the more playful attitudes, sometimes apparently chasing one another over hill or valley and again situated alone as if they had just leaped from some tree or drawn themselves out of den or hole. There are also composite mounds in which a combination of different animal features are recognized in the same structure.

We do not pretend to explain these shapes and attitudes, which are so expressively portrayed. They may have been the pictures of the conquests which have been made, and of the record of incorporation of certain tribes or clans into the tribes dwelling in these places, or they may be expressive of the animal fables or sacred traditions, or they may have been only the fanciful representations made by a leisurely and imitative people, but they do not, so far as we have seen, interfere with the interpretation which we have given of the main types and forms. They do, at times, complicate the subject and confuse any attempt at explanation, but do not contradict.

Why the tribal signs should appear in the emblematic mounds in this region and be nowhere else portrayed, is an important question. The totems of living tribes are often seen on tents and blankets and robes, and, doubtless, were anciently inscribed on wood and stone even as they are now by many of the tribes of the Northwest, but nowhere else do they appear in structures like these.

Every nation has had its tribal condition, but it is not often that the photograph has been taken; here however, we have the picture of that state taken on the very face of nature, the very soil catching the outlines, and the earth perpetuating the likeness of the tribal organization for our observation and study. Other localities preserve the evidences of the states of society which once prevailed among them. The military system may be understood by the defensive works still perpetuated, such as are found in the States of New York, Tennessee, and other places. The advanced stages of village life may be seen in the more complicated works of the Ohio Valley. The communistic state may be seen also in the Pueblos and rock fortresses of the Territories of Arizona and New Mexico, and the still higher stages of a nation's rise may be seen in the many complicated works of Mexico and Yucatan. But the tribal state has here fixed its impress and should here be studied. Society, in its organic growth, may be always traced to the tribal condition, even the military being the outgrowth and ultimately the civil condition the result; but it is not often that the earliest stages perpetuate themselves in any permanent works.

Wisconsin enjoys this advantage and may claim this honor. The Albanian fathers dwelt in the hills of Rome, and the Pelasgi and Hellenic tribes wandered over the beautiful valleys of Athens and Greece. They have perpetuated their memory in story and in song, but have never left a symbol of their tribal state. The escutcheon of Judah, Issacher, Dan and Napthali may possibly bear the tribal signs, and the very divinities of Egypt may present the outgrowth of these same totem symbols, in the animal emblems which are found mingled with their sculptured ornaments, yet here in their tribal simplicity these ancient people have left us a picture which no other land presents. Everywhere else the symbols of this state become so complicated and so mingled with other inventions that they lose their significance or are overshadowed by other elements.

If elsewhere tribes did grow into confederacies, and if confederacies became nations, and if in the national state the tribal signs were preserved, as we have reason to believe, yet the simplicity of these signs was lost and the more elaborate carvings in stone, or the more complicated structures in earth, served to hide the symbols. The great alligator mound of Ohio, Adams county, may have been the remains of the same totem system, the animals there being placed as emblems of the tribal divinity which had now grown to be almost a national god, or at least the guardian of a great and numerous people. So the celebrated Chichemecatl of the Toltec race and the intertwining serpents so often seen depicted in the Aztec pictures may have been only the tribal god grown to be a national divinity.

But whether this be so or not we cannot but believe that the tribal totems are found on this soil, where the emblematic structures are so abundant, and it is more than probable that when these structures come to be better understood they will unfold the story of the tribes which once dwelt on the banks of these lakes and streams, in their very shapes and positions, make known the long lost records of a people which have passed away forever.

RELICS OF ABORIGINAL ART AND THEIR ETHNOLOGICAL VALUE.

BY CHAS. WHITTLESEY.


Reprinted from Tract No. 52, Western Reserve Historical Society.

Very little is necessary in the line of description for the effigies here presented, beyond the engravings and the letters of gentlemen who furnished us the photographs. We give them as a fair sample of a numerous class of relics in the west.

A few remarks upon their ethnological value will be sufficient to dispose of the subject of Indian stone effigies.

Among the relics of aboriginal art, executed in stone, there are in Ohio very numerous effigies of the human head and face. Some, like figure No. 2, are reputed to have been found beneath the surface at depths which, if the reports are to be relied upon, indicate very great antiquity, much greater than our artificial earth mounds; but the number reputed to have been exhumed from the drift clay, sand or gravel beneath the surface are very few, and they are lacking in that unquestionable proof of position which is necessary in such cases. This grotesque image from Marlboro, Stark county, Ohio, if it was in place at the bottom of a well twelve feet deep, would rank with the flint implements found by Boucher de Perthes in the diluvium of the valley of the Somme, in France. Compared with the antiquity of the drift deposits in Ohio, the most extreme era claimed for the mound builders is a very small fraction of time. Man may have existed in Ohio with the mastodon, elephant, rhinoceros, musk ox, horse, beaver and tapir of the drift period, as he did in Europe, but to decide such a question the proof should be indisputable.

Effigies of animals carved on stone are more frequent than those of man. They are generally intended as an ornament for pipes, and are better executed than the human effigies. In sculpturing himself, neither the Indian nor the mound-builder has shown much artistic skill. The four specimens which we here produce are so crude and even grotesque that no inference could be drawn from them in reference to the facial expression of the race. For animals, the expression is often life-like and spirited.



For those found upon the surface, their position affords no evidence for or against their antiquity. Those from mounds are probably not more than 3,000 years old. Those purporting to be from beneath the natural surface in undisturbed deposits would imply an age varying with each specimen, to be determined by its surroundings. The one from Marlboro is, no doubt, honestly described by the persons who were present, but their attention was not specially directed to its antiquity. It was first seen as a bucket of earth was emptied at the mouth of the well, and may have fallen in from the surface, or very near it. Indians on the northern lakes of the present generation have done as fine effigy carving as anything found in the ancient earth mounds. Some of their work, however, is very coarse. As a general rule, the mound builders have produced better and more finished animal effigies than their successors the red Indian, but the difference in style is not so manifest that it is safe to separate their respective relics on this basis alone. Many of the surface finds are no doubt the work of the mound builders. In a collection of which nothing is known of their location or their position in the soil, it is not practicable to assort them according to the races by whom they were fabricated.

There is some reason to conclude that there were people on this territory prior to the builders of the mounds. Our cave shelters have not been much explored, but as far as they have been examined, the relics lying at the bottoms of the accumulations indicate a very rude people. I anticipate that we shall find here, as in other countries, that the most ancient race were the rudest, and were cave dwellers. I have seen at Portsmouth, Ohio, on the banks of the Ohio river, fire hearths more ancient than the earthworks at that place. Whoever the people were who made these fires, they must have had arrow points, war clubs, and stone axes or mauls. But we have at this time no evidence to connect such a primeval race with the human effigies scattered throughout Ohio. These effigies present no uniformity of type, and, therefore, cannot represent race features. They approach nearer to the North American savage than any other people, but are so uncouth that they are of little or no ethnological value. There was no school of art among either the cave dwellers the builders of the mounds, or the more recent Northern Indians, which was capable of a correct representation of the human face. These effigies must have been the result of the fancies of idle hours, produced under no system, and with no uniformity of purpose. They thus have no meaning which the historian or antiquarian can lay hold of to advance his knowledge of the prehistoric races. The ancient painters and sculptors of Central America have not left specimens of high art, but they are far above those of North America. There

is in their human delineations no uniformity which gives them uniformity as the representations of a living people. Native artists have no other standard than the persons by whom they are surrounded. The Italian heads of Christ present the Italian features, not the Jewish. On account of the uniformity of design in Central American statues and painting, we feel a consciousness that we see in them the prominent features of the ancient people whose ruins remain to our times. We cannot say as much of the ruins of the Mississippi valley. The builders here have not left us, like the Assyrians and Egyptians, their portraits, nor any written or even pictorial record of themselves.

LETTER OF DR. PEASE.

MASSILLON, Apr 15, 1881

COL. CHARLES WHITTLESEY—

Dear Sir:—While at a loan exhibition at Canton, a few weeks since, I came across what I believe to be a specimen of aboriginal art, a photograph and drawing of which I send you inclosed, the former being about one-third and the latter exactly one-half the natural size. A young man seeing that I was interested in a collection of stone im-



Figure No. 1, one-third of nature.

Nodule of Iron Ore, Plain, Stark County, O.

plements took me to another part of the room, and from an obscure corner of a case produced the specimen which I am about to describe. It is a nodule of kidney iron ore, weighing two pounds and fourteen ounces, 4 inches in height and $13\frac{1}{2}$ inches in circumference. There is a natural (apparently) opening through the base of the nodule, which is $4\frac{1}{2}$ inches long. A human face is carved upon the nodule in relief, $2\frac{1}{2}$ inches in length and $1\frac{1}{2}$ inches across the forehead. Radiating from the forehead to the outer limit of the upper part of the face are thirty-three short parallel lines, and running back from the upper part of the forehead are marks that are evidently intended to represent some kind of head dress, as they look not unlike feathers. The forehead is crossed by three parallel lines that look like wrinkles; the nose is partly gone, so that in a profile view it hardly shows at all.

The history of it is as follows: Eighty years ago a man by the name of Christian Spangler found it in some woods in Plain township, Stark county, when cutting trees to build a house. After he died his son came in possession of it, and when he died he left it to his son, who is the man of whom I purchased

it. He parted with it because he has no children to leave it to. I was well convinced of its genuineness before purchasing. A number of archæologists have seen it, and all agreed in pronouncing it genuine. This photograph does not bring it out as it should; it looks like an etching, when reality the face is in bold relief.

A. L. PEASE.

LETTER OF MR. KUHN.

CANTON, OHIO, June 8th, 1878.

L. LITTLE, Cleveland, O.

Dear Sir: I hand you a photograph of a rudely cut image of a human being, in black marble. The original is about one-half larger than is represented in the picture. It was found near Marlboro, Stark county, O., by some workmen while digging a well, and said to be twelve feet below the surface, imbedded in sand and gravel. The gentleman of whom I received the photograph informs me that the ground had never been broken, and that it must have been deposited there at some remote period. You will observe that the picture shows a front and side view, and represents the figure seated astride of a stone. The white veins of marble make the figure look rather comical about his mug.

Truly yours; etc.,

R. D. KUHN.

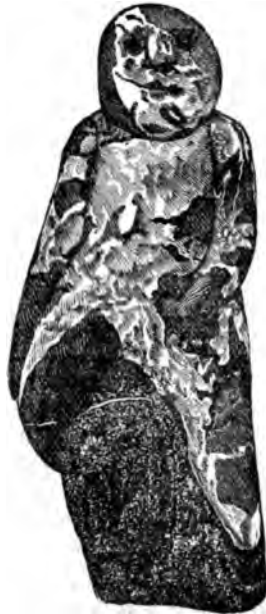


Figure No. 2, Marlboro, Stark Co., O. One-half nature. Variegated marble, front view.

LETTERS OF MR. KITE.

DAMASCOVILLE, O., January 31, 1878.

RESPECTED FRIEND C. WHITTLESEY: I forward photographs of two images found in this part of our State. The one representing a head (figure No. 4), I now have in my possession loaned only. It was plowed up in Carroll county. It is slightly disfigured from being struck by the plow, being found on the farm of Elias Willard, near Norristown. The other image from which my photo was taken was found near Marlboro, Stark county, though it is quite possible that other parties have had it photographed, as it has been passed around into several hands. There were four persons present when it was found, and they are all confident that it was in place at the depth of 12 feet. I very much doubted the fact when I first heard of the depth,



Fig. No. 4, Sandstone, size of Nature.

Surface, Norristown, Carroll county, Ohio—Cabinet of C. G. Greenwood, Esq., Minerva, Carroll county, Ohio.

The expression of this face is decidedly Indian, which is more manifest because there is no attempt at ornamentation.

and made very close inquiry with regard to it. A minute account of the finding was written at the time, but I am not able to lay my hand on it at present. Of this I am assured myself: that the persons were honest in their statement, or what they believed to be a fact, yet it might, as suggested, have fallen from the surface.

J. L. KITE.

The variegated marble of which No. 2 is made has not been found in Ohio in place. No attempt was made in this rude statuet to carve the hands or feet. On account of the black portions, especially on the right side of the head, this figure looks a little more grotesque than if the stone was of uniform color. The mouth and nose are so grossly out of proportion to the head and body that it is probable this effigy was gotten up as a burlesque.

DAMASCOVILLE, O., December 11. 1879.

CHARLES WHITTLESEY — *Esteemed Friend*: I send thee a photo of a stone image, No. 3, found near the Pennsylvania line in this county, while the making of the Sandy and Beaver canal was in progress, some forty years ago. It came into possession of a farmer, who in building a new barn had a niche made for it where it became the target for the stones thrown by all the "small boys" in the neighborhood, and was thus sadly damaged, the chin, lips, nose and eyebrows being broken away. It has been sent to the Smithsonian, on loan.

Secretary Baird reports on behalf of those who are accounted authority there, that there is no doubt but that it is a prehistoric relic, and that it was probably carved on the point of some projecting rock.

The material is a coarse sandstone. The head is full size. It is only within the year that it has come to the notice of those who appreciate its value. It now belongs to J. F. Benner & Son, New Lisbon, O.

Respectfully, thy friend,

J. L. KITE.



Fig. No. 3, one-fourth nature—Sandstone. If the above figure had not been seriously battered, it would be the best formed head that has fallen under our observation.

ANCIENT QUARTZ WORKERS AND THEIR QUARRIES IN MINNESOTA.

BY MISS FRANCES E. BABBITT.

Read at the Meeting of the Minnesota Historical Society, in February, 1880.

Members of the Minnesota Historical Society who have read State Geologist Winchell's report of 1877 upon his reconnoissance into Morrison county, have doubtless been interested in his account of the quartz chips discovered by him at Little Falls, as also in the accompanying synopsis of scattering terrace remains, heretofore brought to light by various agencies at various other points within the boundaries of Minnesota. As certain of these facts lie at the basis of the present study in pre-historic life, one may venture, presumably, to indicate them briefly. Everybody understands, of course, that the term pre-historic is a vague one, covering a multitude of our ignorances; and that antiquarian research is, at the present time, largely directed toward the work of disentangling its lost eras from each other, and adjusting relations among its epochs and peoples.

It is no longer enough to label our archaeological material as merely prehistoric; science now demands more precise significations. Did such or such an object originate with the old Norse adventurers, we ask, for instance, or with pre-Columbian red Indians, or with the Mound Builders? Or was it the work of that mysterious race of human animals who inhabited the land before the glacial epochs ended, and who burrowed in dens and caverns, and left the story of their lives cut into a few handfuls of stone rubbish? Professor Winchell's report touches archæology at a co-glacial or, perhaps, an inter-glacial epoch, and embraces the following significant points:

First. He discovered in Morrison county, at several places along the banks of the Mississippi river, as at Little Falls, Pike Rapids and at Little Elk, a great number of unwaterworn quartz chips, some few of which he conceived to have been artificially shaped. This view of the case was afterwards supported by competent authority.

Secondly. The professor very logically concludes the quartz workers to have inhabited these shores before the mound builders, since he found quartz chips abounding in a stratum of the river terrace, which underlies mounds and other earthworks constructed in the immediate vicinity.

Thirdly. The professor suggests the probability that the Little Falls quartz workers were palæolithic men, using the term palæolithic to indicate the period which ended with the last glacial epoch. It is to be observed, however, that the term in question is often also loosely applied to stone remains in a sense quite irrespective of their ancientness. Thus rude stone implements, so called, like those unearthed at Little Falls, are denominated palæolithic, while the finer stone objects originating among more highly civilized people are classed as neolithic, and this somewhat confusing usage holds, even when, as occasionally happens, the cruder workers are the more modern race. The stone remains of California exhumed by Prof. Whitney from a depth of 150 feet, 70 feet, and so on, must be very, very ancient, but they are called neolithic because of their superior characteristics.

It is a disputed point among American scientists whether the remains found from time to time along our river terraces, etc., are referable to a post-glacial folk or to co-glacial, inter-glacial or pre-glacial peoples. The gist of the difficulty lies largely in the scattering and accidental positions occupied by the remains in question when discovered. It is easy to doubt in detail the antiquity of a spear head, a scraper, or an ancient hammer, or of a few bones picked up here and there, when, had the same objects been known to be essentially placed, that is, had they been found clearly occupying the positions in which they were put by the races originating them, the question of their real character would not be open to discussion at all. The Little Falls quartz workings undeniably occupy just such a place, and to this fact they owe an importance which is no doubt destined to make them the object of national study.

Besides the surface quartzes reported by Prof. Winchell, there exists at Little Falls a stratified deposit of ancient quartz objects, consisting of finished and unfinished implements and cores in variety, together with what might, I think, be called flake blocks; that is, blocks of sizes convenient for transportation and handling, which appear to be designed to be flaked into knives and other implements, and which have been chipped into convenient figures affording the required outline.

The deposit in question is situated within a terrace bluff of the Mississippi river, upon the east side. It lies at the base of a gentle slope which there intersects both the level surface of the terrace proper and the steeper terrace bank. The deposit occupies the line of junction between the slope and the terrace bank and runs back from this line horizontally eastward into the terrace. The spot likewise forms the bottom of an irregular north and south notch in the crest of the terrace bluff, the

ground inclining gently toward it not only from the east, but also from the south and north. The place indeed constitutes a sort of natural spout through which a good deal of drainage is effected. By this latter agency the surface soil has been gradually eaten away from the spot nearly down to the hard pan. The present depth of earth therefore over these quartzes affords no criterion of their age.

These quartzes, as far as yet observed, occupy an irregular stratum a few inches in thickness, which is from sixteen inches, perhaps, to three or four feet below the turf at top, this according to distance north or south of the spot at present exposed where the soil above is thinnest. The quartzes lie upon a bed of soil of the same character with that above them, both of which contain occasional water-worn stones, but no angular material whatever. The quartzes when exposed are of the color of the soil, and they have edges so fresh and sharp that one often cut one's fingers with them in digging them out. Some few, very few of them, bear minute dark colored crystals upon the surface. The contents of the stratum are of different varieties of massive, opaque quartz, much of which has quite evidently been selected with an eye to rude esthetic effect, being mottled, spotted and otherwise variegated. Some of these varieties at present abound in the immediate neighborhood, while others occasionally appear in the coarse river wash along the shore, and in erratic boulders. The compact varieties retain their natural luster unimpaired, but those of looser structure look dull and corroded. A wagon track leading down to the river cuts the deposit into north and south sections, it having broken down and carried away a strip through the midst from one to two feet in depth and some seven to nine feet wide, the debris of which are scattered about immediately below to the distance of between one and two rods.

In the wagon track itself, which is only used occasionally, lie small implements more or less in fragments, and some larger ones, as hammers and the like, in an entire state, together with lumps of unworked and partially worked material. These all lie closely intermingled and compacted with water-worn rubbish which corresponds in position and general appearance with that characterized by Prof. Winchell as "hard pan, probably belonging to the first glacial epoch." See Geological Survey of Minnesota for 1877, page 55, figure 6. The wagon track above mentioned is here worn down to a level below that of the original quartz stratum, and exposes the latter on either side, but not conspicuously. The quartz implements are crudely shaped and are exceedingly rude and apparently undifferentiated as to design. The limits of this deposit are not yet exactly defined

in any direction. Over it at one point is the stump of a good sized tree, decayed to the ground. In prodding in at the side among its roots, at the level of the quartz workings I came upon a nest of round water-worn stones all of similar shape and size. They were lying loosely piled together, and the fact of their uniform size with that of their position made it seem as if they might once, previous to the growth of the tree, have formed an artificial heap. They must have numbered twenty and perhaps many more. It would appear possible that they might at some time have been placed upon the side for the purpose of marking it.

It cannot be doubted by any intelligent student of the situation that the quartzes sealed up within this horizontal fissure in the soil belong to an ancient manufactory of such objects, in situ. This view of the case is substantiated by a variety of circumstances, prominent among which are the following:

First. The presence upon the ground of tools suitable to manufacturing purposes. I have found among the angular quartz lumps lying on the hard pan a lap-stone roughly hollowed out upon the upper surface, and probably fashioned from some convenient water-worn slab. It corresponds pretty well in size and general appearance with specimen 197, figured in Abbott's Stone Age in New Jersey as a portable corn mill. The latter implement is, however, more abruptly and conspicuously hollowed than the Little Falls specimen. The latter appears to be slaty material, and I should like to see it submitted to inspection under a microscope. I also picked up near the lap-stone an angular club or hammer of similar stone. The latter had been chipped to its present shape without rounding off its surfaces. I likewise took out of the quartz stratum itself a stone hammer of another description, and one finds in the workings numbers of quartz hand-hammers and the like.

Second. The quantity and shape of the chips upon the ground point to the same conclusion. Most of the finer chips contained in that part of the stratum which has been broken down by the wagon track, and which is, of course, most accessible, have indeed been either quite washed away, or plunged into the interstices of the hard pan. Yet one finds occasional spots where chips stick in the soil as if they had just been flaked off. At one place I observed the chips were all thin and small, as though derived from objects finished up at that point. At other spots appear triangular fragments which have clearly been struck from the backs of knives and the like, as well as chips from the pointed and rounded extremities of implements.

Third. The existence among these objects of a great amount of material in actual process of manufacture, is a circumstance of similar import.

The quartz flake blocks mentioned above constitute an important element of the unfinished work and are most interesting objects of archaeological researches.

As to the surface chippings, it is to be remarked that there is a good deal of boulder quartz, which has been pounded up and strewn about the shores by boys and other idlers. Besides this, however, there are worked implements and chips scattered abundantly in spots here and there upon the river slopes and terrace banks. Yet I find but few of these upon the terrace tops proper. Indeed, just within the radius of my own local observations, these chippings only appear, as far as I can judge, at points upon the terrace top which seem to have had the surface soil washed away, or disturbed in some manner. At such spots one may often pick up a few implements, possibly of one sort, and on looking closely one frequently finds these associated with chips and unfinished work, quite as if the artisan had conveyed a block of material hither and here seated himself to work it up. In illustration I mention the fact that after a heavy rain I once picked up in a foot-path about half way down the terrace bank a perfect quartz arrow point. Recollecting former observations I soon afterward returned to the spot and there gathered from the soil some dozen, more or less, of these points, partially blocked out, together with a quantity of chips evidently struck from them.

As yet it is not clear that the arrow point instanced and the other quartzes are attributable to the same race, since thus far no implements of the sort have been discovered to be common to the river banks and the quartz stratum. But in other cases the connection between the scattering classes of work and the central deposit is obvious, the general type and workmanship of the two systems being identical.

Last season I discovered in the soil of the river bank, near the water, a shell-shaped instrument, the name and use of which is unknown to me. This I added to my collection, but near the spot appeared fragments of similar articles, which, to my regret, I did not secure. The shell shape was quite fresh and sharp at the edges, and was also of better workmanship than the most, and having at the time seen nothing like it, I was inclined to believe both it and the arrow point to be the work of a comparatively modern people—perhaps of the mound builders. Last October, however, I took from the quartz workings here three implements of the same description with the shell shapes in different stages of manufacture.

It is to be trusted that the facts detailed in this paper may be verified in the immediate future by archaeological experts; but, however this may eventuate, we cannot expect the resulting con-

clusions to be definitely established until the accompanying geological standards shall be fixed with absolutely scientific precision by a complete survey of Morrison county. Naturally it is not possible to estimate the precise point occupied by the remains in question in the scale of the glacial epochs till the drift features of the place are better understood than now. Still there are many facts of the situation which are by no means open to doubt. We know, for illustration, that besides being palæolithic in character, these quartz implements are the remains of a palæolithic age, because they are imbedded, somewhat deeply so indeed, in a drift deposit which is certainly glacial, whatever its other and relative characteristics may yet prove to be. We know further, that the quartz stratum containing these objects must once have been upon the surface, which latter must have been *terra firma* and situated at a level a certain number of feet below the present terrace top since deposited. It is likewise clear that the underlying hardpan of the first glacial epoch, if such it be, together with the material now represented by the few inches of soil intervening between the quartz and the hardpan had attained their present development previous to the origin of the quartz stratum. Prof. Winchell somewhere records the opinion that between the first and second glacial epochs a considerable interval of time may have elapsed, during which forests may have flourished not unlike those now in possession of the soil. Should future researches corroborate this theory, it may be found that the precise period in question is that in which Little Falls quartz workers peopled this part of the Mississippi valley. Appearances all indicate that these "rude quartz implements" were finally submerged by a flood, gentle in its action, probably of long continuance and perhaps foreseen by the palæolithic men interested. The disposition of small, smooth, water-worn pebbles in the interstices of the stratum shows this, as likewise does the fact that collections of implements of one sort are not unfrequently met with, a portion of which will, perhaps, be unfinished and the remainder completed. No such systematic arrangement of material would, of course, be possible had the quartz been strongly agitated by ice or powerful currents.

THE RABBIT AND THE GRASSHOPPER: AN OTOE MYTH.

TRANSLATED BY REV. J. OWEN DORSEY, OMAHA AGENCY, NEB.

There was a village of grasshoppers. (Now Wakanta, a Great Spirit, gave men tobacco.) And all the grasshoppers wished to take tobacco from men. Again Earth said, "My grandson, let us two go to the grasshopper village. Wakanta gave tobacco to your uncles, and the grasshoppers have taken all away from them. Therefore, let us two go." "Yes," said the Rabbit. Then the Rabbit and his grandmother went together, and they reached the grasshopper village. And when they reached the outskirts of the village, the old woman said again, "My grandson, what you decide to do, so do." And the Rabbit cried out. When he cried out, he shook the whole earth with his voice. And the grasshoppers said, "Wa! A very bad god has come hither. We shall be exterminated." And the grasshopper chief took some tobacco, and gave it to the Rabbit. And he gave it to his grandmother, and the old woman put it in her sack. And he cried out again the second time, and again he shook the earth more than before. And the grasshoppers said, "Hau! It will be bad for us (we shall be in a bad condition.) Give ye him tobacco again, in like manner. And the grasshopper chief took some tobacco, and gave it to the Rabbit in like manner. "Well, grandmother, here is the rest. Take it. It will be easy (to get the rest.)" Again he cried out. When he cried out again, he shook the earth with his voice more than ever. Again they said, "Well, they are very bad. They have come very close to us. Well, in like manner, give ye to them."

Again the grasshopper took some tobacco, and gave it to the Rabbit. And he said, "Well, grandmother, they will be very easy (to overcome.) Again, here is the rest, the tobacco." "Well, my grandson, that will do," she said. And she took the tobacco. And when he cried out again, he made the whole earth shake many times, worse than formerly. And all the grasshoppers flew upward. The grasshoppers, taking some tobacco in their mouths, flew away. Therefore, they are just as if they chewed tobacco; and (something) dark yellow their mouths send out. The old woman, taking the tobacco, scattered it over the land. All the seed came up, and it grew on the earth.

THE END.

Añ'e nan'thace cina¹ iyan' i'tánañe.² Añ'e Wakan'ta
 And grasshopper village one it (was) there. And Great Spirit
 wan'shike³ rányi⁴ wo-kun'. Etá nan'thace próke⁵-khci⁶ rányi
 man tobacco them He gave. And grasshopper all - very tobacco

wan'shike wa'kíru'the kúnra.⁷ Shiké Mayan⁸ éwana,
 man to take from them wished. Again Earth speaking,
 "Hintakwá,⁹ nan'thace cína hinwin're to. Dhicéka rányi
 "My grandson, grasshopper village us-two go let. Thy uncle tobacco
 Wakan'ta wókūn shke nanthace próke wanáshe¹⁰ ki;¹¹ aréci
 Great Spirit gave them when grasshopper all take from them; therefore,
 hinwin're to." "Hūn'ce,"¹² e mishciñ'e.¹³ Etá mishciñ'e ikun'¹⁴
 us-two-go let "Yes," said Rabbit. And Rabbit grandmother
 'krátok're-na iwarawi.¹⁵ Etá nan'thace cína i'tahiwi.¹⁶ Cína
 go with his own ing they went. And grasshopper village at they arrived. Village
 cecétahiwi. Shiké, "Hintakwá, ton'-to un i'shru'kran shke
 border at they arrived. Again, my grandson, how to do you decide if
 ikú unre," e ináshiñe. Etá mishciñe hóton.¹⁷ Hóton shke máyan
 so do," said old woman. And Rabbit bawled. Cried out, when land
 proke rahúhu'the. Etá nan'thace, "Wá! Wakan'ta pi'-
 all he shook many times with mouth. And grasshoppers Wa! God good
 shkunya tan'ra iyan' 'ci'ke. Shénawawáhi hniye ke'," e. Etá
 not great one come. Enough us make will, said. Then
 nan'thace tótanhá¹⁸ nahá rányi tó rú'the-na mishciñ'e okun'.
 grasshopper chief the tobacco some taking, Rabbit he gave to.
 Etá ikūn' o'krākun. Etá ináshiñe nahá wósha o'kráyu.
 Then grandmother he gave to. Then old woman the sack put in.
 Etá shiké inúhan hóton; shiké má-yan ēta rahúhu'the.
 Then again, second time cried out: again land beyond shook it.
 Shiké, "Hau! pishkunya, tányi ke. Rányi shiké ithké
 Again, O! good - not we shall be. Tobacco again in like manner
 okun'wire." Shiké nan'thace tótanhá nahá rányi tó rú'the-na
 give ye to him." Again grasshopper chief the tobacco some taking,
 mishciñ'e ithké okun'. "Hau, hiñkunya, u'tá cé aré ke.
 Rabbit in like manner he gave. "Well, my grandmother, rest, this is it.
 Rú'there. Wómañ-kénnye hniye ké." Shiké shūn hóton.
 Take it. Easy they will be." Again just cried.
 Shiké hóton shke máyan ē'takhci rahúhu'the. Shiké,
 Again cried when land beyond very he shook many times. Again,
 "Hau! pishkunya tanránye ke. Ashkikhci acínye ke. Hau!
 Oh! not - good great - they. Close - very come - they. Oh!
 ithké woğun'wiré," ánye. Shiké nan'thace rányi tó
 in like manner, give ye to them," they said. Again, grasshopper tobacco some
 rú'the-na mishciñe okun'. Etá, "Hau! hiñkunya, wómañk-
 taking Rabbit he gave. Then, "Well, my grandmother, easy
 ékhcinye hniye ke," é. Shiké, "U'tá cé aré ke, rányi."
 very they will be," said. Again, "Rest, this is it, tobacco."
 "Hau, hintakwá, 'kashūn'khci ki," é. Etá rú'the ke rányi.
 "Well, my grandson, enough very said. Then look, tobacco.
 Shiké inúhan hóton shke máyan próke ē'takhci rihúhu'the.
 Again, second time cried, when land all beyond very he made shake.
 Etá nan'thace énahá próke kitan'nye mañ'kri'ta. Nan'thace
 Then grasshopper the all flew upward. Grasshopper

rányi i-u oyúnye-na kitan'nye. Aréna rányi rashkí'ke ithké-
tobacco in mouth they putting, flew. Therefore, tobacco chew like

khei; etá i étawe 'thi-shéwe-thké-khei aghéwenye.
very; Then mouth their oellow dark they very they send out.

Rányi rú'the-na máyan i'tá u'éra 'pé, ináshíne. Etá thu
Tobacco taking land there scattered threw away old woman. Then seed

próke aghéwe; etá máyan aghéwe. 'Kahétan.
all came up; then land came up. So far.

NOTES.—Though the myth is here given as dictated, the sentences are not in the usual form employed in such narrations. Thus, the regular form of the first and second sentences would be: Ane nanthace cina iyan i'tanananye ke, the last word being contracted from i'ta-nane and anye ke, it is said. Ane Wakanta wanshike ranyí wokun anye ke. In Omaha, this would be, Ganki khdhankhdhanshka tanwangdhan win ededi-dhan ama. Ganki Wakanda aka nikashinga-ma nini wa'i-bi a-ma. The article-pronouns answering to aka and -ma, are wanting in the Otoe sentence, though they are in use. The following abbreviations are employed: Dh., Dhegiha (Omaha, Ponka); D., Dakota; W., Winnebago; K., Ka sas; C., Ciwere; I., Iowa; O., Otoe.

1. Cina, fr. ci, tent; Dh., 'tí dhan, tanwangdhan, village; 'ti, tent.
2. I'ta-nane, fr. i'ta, there; nane, art. pron., the curvilinear object, referring here to the shape of the tribal camp; Dh., ededi-dhan, edi-dhan.
3. Wan-shike, or, wan-shahike; W., wankahiga-ra; Dh., K., nikashinga.
4. Rányi, W., dani-na; Dh., nini; D., candi; Os., nanchi (nanahü, Max von Wied.) Wokun, pl. object, from okun; W., hokun, sing. obj.; Dh., wa-i, pl., 'i, sing. ob.; D., wica-ku, pl. obj.; ku, sing. obj.
5. Próke, all around the camp circle or village, the whole village or nation.
6. Khei, very; Dh., khti, khei; D., khca.
7. Kunra; Dh., gandha; D., cin; W., -zhéshé hiréna; C., sing. I., ha-kun-ta, I wish; W., -zhézh-hian-na; Dh., kan-béha; D., wa-cin.
8. Mayan, earth, land; Dh., mashan; W., man, man-na; D., magha, maka. The C. "y" corresponds with the Dh. "ah" in many cases; as yan, to sleep, Dh., :han; ye, zhe; wa-yee, be-ahshie; yin-e, zhinga, etc.
9. Húshakwa, O my grandson; Dh., tushpa-dhan, used by women; tushpa-ha, by men. The C. distinguishes between grandson and granddaughter, but the Dh. does not.
10. Wa-nashe, pl. obj. from nashe, to snatch from, deprive of; D., we-nashe, from ginashé.
11. Kí, oral period of Iowa women; han, of Otoe women; he, of Dh. women; ke, of Iowa men; ke-i, of Otoe men, and ha, of Dh. men.
12. Húwe, yes; W., hoca; D., hā, wāh; Dh., an, anhan, a.
13. Múshéna, W., washinga-ra, washinga-da; Dh., mashcinge; D., mashtin, mash-tinca; mashnu-shi, white rabbit; Osage, mashtinska.
14. Ikua, her grandmother; Dh., i'kan; D., kumshi-thu; hinkunye, O my grandmother; Dh., kanha, said by men.
15. rúrawi, from i-rare, to go to a specified place; Dh., edi dhe; D., ekta ya. In pl. Dh., edi adha; D., ekta rapé.
16. I'm-hir, -ita, Dh., éta, at, thither; D., ekta; compare W., -éca; hi, common to C. D. and Dh.; -wa, da, a pl. ending; D., pi; Dh., -i. So cece-tahwi, from cece, border, embark; compare Dh. toke, edge, but kanha, border, bound.
17. Húwa, D., hokun, hokun; Dh., hūtan, said of the cry made by an animal. Ba-húshé, D., ya-húshé; Dh., dha-t-ta.
18. I'waa, Dh. wáhan W. wáwan, to go on the war-path; wáwaha, W., wáwan-wáwan-ra; Dh. wáhan-háwan; D., wáwan-háwan; the leader of a war-party, war-chief, chief, lord. W. D. and Dh. have other words for "chief."

Mayan, the Earth, the grandmother of the Rabbit, is distinguished from mayan, the ground, land. She calls men her sons, and women her daughters. Therefore, "the men are your uncles and the women are your mothers," she said to the Rabbit, her grandson.

Nevertheless the Rabbit appears in many of these myths as the great benefactor of mankind, he is not considered among the gods.

In some instances he seems to be confounded with "The Orphan who lived alone with his grandmother." This orphan in C. wóhshéshé; D., wáhamshéshé, has adventures as a rabbit. Such a personage is the hero of a Pawnee tradition, told me by an Omaha.

Even in the same tribe, there are different versions of a myth. For example: the person killed by the Rabbit, the male Winter, is called by some "He who makes driving snow storms." This person used to go out to a high bluff, and watch for the hunters returning to their homes. When he saw as many as he could carry home on his back, he would make a snow ball, and bringing it up to his mouth, he would say: "Wh! wh!" blowing it in every direction. This would bring up a blinding snow storm, and he would always get as many human bodies as he could carry.

ON THE ALABASTER QUARRIES AND FLINT WORKS FOUND IN WYANDOT CAVE.

BY REV. HORACE C. HOVEY, OF FAIR HAVEN, CONN.

Stalagmitic deposits in this country have usually yielded few objects of archaeological interest. This is due partly to imperfect exploration. I know of no instances in which a systematic plan has been carried out, of cutting vertical slices through all deposits down to the true cave-floor, and afterwards subjecting each barrow-load to inspection. If it is true that in large American caverns there are dry chambers of ample dimensions, preferable for abode or sepulture to places whose condition favors the formation of dripstone. In such dry chambers the atmosphere is both chemically and optically pure, being free from noxious gases and from floating particles. The nitrous earth also has antiseptic properties, favorable to the preservation of desiccated human bodies, and the fibrous textile fabrics accompanying them, for an indefinite length of time. Specimens of such natural embalming have been found in Short Cave and Sults Cave, and perhaps in other caves in Kentucky; though, contrary to erroneous statements repeatedly made, no mummies have been found in Mammoth Cave. Two skeletons were exhumed near its entrance; and, farther within, remnants of torches and other proofs of Indian visitation abound. Saltpeter miners worked over many acres of cave-earth between 1812 and 1815, as is evident from the huge vats. A skeleton was also found in Luray Cave, Virginia, which I had opportunity for examining before it had been disturbed. I do not hesitate to pronounce the remains to be those of a human being. The skull is imbedded in dripstone to the depth of about five inches; but whether this bed is a solid mass or only an incrustation, I was not permitted to find out. I also found an arrow-head in

Luray Cave, at a point further than any that had been explored up to that time, and reached only by breaking a passage through stalactites from two to three feet long, and that must have required several hundred years for their formation.

My main purpose, however, in offering this paper, is to sum up, for permanent record, the archæological discoveries thus far made in Wyandot Cave, located in Crawford county, Indiana, five miles from the Ohio river. The older portion of it was known as early as the war of 1812, it being then a source of supply for saltpeter, which was carried thence to Philadelphia, to be used in the manufacture of gunpowder. On my first visit to Wyandot Cave, in 1854, the proprietor showed me a large excavation in what is known as the Pillar of the Constitution, at the end of the old cave, two miles from its mouth. This was thought to have been the work of the saltpetre miners. I have a different explanation to offer. This did not occur to me at once, but is the result of long-continued observation. I regard the excavation as an alabaster-quarry worked by Indians.

The main design of this paper, however, is to record certain archæological discoveries in Wyandot Cave. This Cave is located in Crawford county, in Indiana, and is said to be twenty-three miles long. It was, like Mammoth Cave, worked as a saltpetre mine during the war of 1812. But two miles of it were known to the public, till, in 1850, when a small opening was noticed among loose fragments of stone. On removing these, a scuttle was found, that had every appearance of being formerly used and then closed. A well beaten path beyond led inward amid smoke-stained walls. Charred bits of hickory bark were strewn about in abundance. Many poles were found, from five to eight feet long, all saplings, of poplar, sassafras, pawpaw, or some other kind of soft wood, none of hickory or oak. No marks of an edge-tool could be found on them; but each had been pulled up by the roots, and the branches twisted off. These may have served a double purpose, as alpenstocks, and as weapons against wild beasts, whose tooth-points on them are still visible. The proprietor, Mr. Rothrock, pointed out these evidences of Indian pre-occupancy of the cave, on the occasion of my first visit, in 1854. An orifice known as the auger-hole had at that time just been enlarged from about six inches to twenty-one inches, barely admitting explorers through a group of bulky stalactites to a large area of new territory beyond. Centuries must have passed since any one had threaded that narrow aperture, yet there in the nitrous earth, soft as a newly raked garden-bed, were the moccasin tracks of an aboriginal exploring party that once searched these dim avenues, going up on one side and returning along the other. I noticed not only that these were made by

feet shod by moccasins, but that the parallel footsteps, with heel and toe in line, were such as an Indian would make, rather than a white man, who usually turns his toes outward in walking. Visitors have now obliterated these interesting vestiges.

Many new chambers have been opened since then. The largest of these recent discoveries is Milroy's Temple, in which no trace of Indians has yet been seen. But they were abundant in a room first entered by me in 1878, by means of a trench dug by the guide through a heavy bank of indurated clay. Crawling on our faces for nearly twenty yards, we found ourselves where I am confident no white man had ever been before. The apartment was about forty feet long and eight feet high. Two entire torches, the ends only being charred, projected from a crevice overhead. Who could tell when these extinct flambeaux had last been handled? We left them where they were found. There were quantities of charred bark on the floor. Wolf tracks were numerous, as well as what was once a sleeping-place for some kind of animal. Hence we called the chamber "the Wolf's Lair." The original entrance was probably at the end farthest from our trench, where the strata curve down to the floor, as if the rocks had at some time tumbled in. The place can hardly be more than 1200 feet from the mouth of the cave, though it is now to be reached only by a long detour. In ancient times it was probably a locality of easy and frequent resort.

It is said that in these underground regions the Indians sought a refuge, an abode, a sepulchre. I add, that so far as Wyandot Cave is concerned, they also sought various materials useful in the barbaric arts.

Their well-worn paths ran by deposits of potter's clay, and beds of the finest red and yellow ochre. This substance is superior to what is usually found on the surface, being free from gritty impurities and earthy admixtures. In its moist condition it is plastic, and when dry it receives a high polish simply by scraping and hand-burnishing. Reduced to dust, it makes an excellent pigment. What is more probable than that the Indian availed himself of supplies so easily obtained, and so suitable for his purposes? This may be regarded as merely inferential, but the evidence as to the alabaster quarries and flint works, is clear and conclusive. I offer it as the result of long and careful inquiry and personal observation, believing it to be a valuable contribution to American archæology.

ALABASTER QUARRIES.


In the year 1854 the original proprietor of Wyandot Cave called my attention to remarkable spoliations attributed by him to the saltpetre miners of 1812. The chief sin laid to their

charge was an alleged attempt to fell a splendid stalacto-stalagmitic column known as the Pillar of the Constitution, and standing at the end of the old cave, two miles from its entrance. I found, however, on subsequently exploring what is styled the new cave, opened in 1850, and which it is certain that the saltpetre miners never saw, injuries done to other columns similar to those done to the pillar in the old cave. This should of itself exonerate them from the charge of this vandalism. The thought occurred to me that the excavation into the column might be much older than had been imagined. But in order to understand the proofs by which this theory was verified, a description of the pillar is necessary.

It is about 40 feet high, 75 feet in girth, with a spreading base 300 feet in circumference. The material of which it is composed is a white, striated, hard, translucent mineral, slowly deposited by the evaporation of water freighted with carbonate of lime. This has been known from ancient times as alabaster, but differs from a softer stone bearing the same name, and being sulphate of lime. The pillar is solid and homogeneous. Its immense weight has at some remote period caused the subjacent rocks to settle, thus opening cracks in the stalagmitic base many yards long, and varying in width from an inch to a foot. Some of these have healed over, but others remain open.

Starting from these crevices, a segment, having an arc of 30 feet, was cut from the base, and a cavity made in the shaft itself about ten feet wide, seven feet high, and five feet deep. No one doubts that this was done artificially. The right edge of the incision runs underneath a stalagmitic wrapping eight feet wide, and ten inches thick at its highest part. Inspection shows that drippings like those now healing this wound, were at work before it was inflicted, and that the cut was primarily made through a mass like that by which it is now overlapped. The region above ground is still covered by forests; hence we know that there has been constancy of stalagmitic growth. Experiments as to the rate of increment in the vicinity of the pillar show that while stalactites grow an inch in 25 years, stalagmites grow only one-fourth as rapidly, *i. e.*, one inch in 100 years. I have every reason to believe this estimate to be correct. It must then have required 1000 years for the wrapping to have grown to the present thickness of ten inches, and that length of time, therefore, has elapsed since this alabaster quarry was worked. Confirmatory of this calculation is the fact that some of the fragments thrown out from the pillar are cemented over cavities, where clusters of exquisite stalactites have had time to form.

Further search, in 1878, revealed the implements with which the ancient quarrymen wrought, namely, numerous round or



oblong quartz bowlders, extremely hard, and of a size suitable to be grasped by the hand, or twisted in a withe and swung as a maul. Rothrock, who has been familiar with the cave from boyhood, and who now owns it by inheritance from his father, denies having at any time carried any such stones into it, or of any one else's having done so to his knowledge. The customary tool for getting specimens is a hammer or hatchet. The clumsy stone pounders would be used only by those who had no better tools.

The theory that these pounders were swept in here by some underground stream is untenable for several reasons. First, barometrical observation shows the place where they are found to be twenty feet higher than the entrance. In the next place, there are here no beds of sand, or gravel, or other indications of recent fluvial action. The entire region, moreover, lies below the line of glacial drift. Prof. Collett, the State Geologist of Indiana, who has thoroughly explored the surface of Crawford county, informs me that the cave is at least 100 feet below any drift he has yet discovered. It is certain, therefore, that these small bowlders were brought by hand from a long distance. Their size varies from four inches to eight inches in length, and, although nothing has been done by art to modify their natural proportions, they seem to have been carefully selected as to their shape and fitness for use. Hard as the material is, their ends are battered and whitened by pounding. It is my conclusion, therefore, that they were used by Indians in breaking, from out this alabaster quarry, blocks of a size convenient and portable. Quite probably the place was resorted to by successive generations for material to be made into amulets, ornaments, discs and images. According to J. Jones, M. D., such articles, made of alabaster, have been repeatedly exhumed in the Southern States, and I learn from Prof. S. F. Baird that similar specimens of manufactured alabaster have been found in tumuli in Illinois. Hence, they should also be looked for in Indiana. But if not found abundantly, it should be noted that although this kind of alabaster is hard and durable when not exposed to the elements, it is fibrous in its structure and liable to decay on exposure to atmospheric vicissitudes, as was proved by fragments found in a crumbling condition just outside the cave.

As has been already remarked, there are other alabaster quarries in the newer portions of Wyandot Cave. One of these is in the stalagmitic mass crowning Monument Mountain, an eminence 135 feet high, rising under a dome 205 feet high and 1000 feet in circumference. The stalagmite is about twenty-five feet in diameter at its base, pyramidal in shape, and sustains three statuesque figures, the tallest of which is eight feet high. I

observed in 1878, what it is singular no one had remarked upon before, an incision in the base and side of this alabaster pyramid, precisely like that in the Pillar of the Constitution. Searching among the *debris* below, I found similar fragments of alabaster and quartz pounders. In the South Arm of the cave a different quarry was noted, in what is called the Pillared Palace. Here, instead of excavations into large masses, the smaller columns had been felled, some of which were broken into fragments, while a few still remain nearly entire. Quartz pounders again were found lying under the limestone ledges. It is added that in all cases the fractures described above, showed, instead of a sharp edge and bright surface, as true of those made by recent visitors, a discolored and corroded appearance befitting their antiquity.

FLINT WORKS.

The proprietor of Wyandot Cave is impressed by the notion that it was once a favorite resort for bears. He exhibits here and there "bear-slides," which are really places worn smooth by Indians clambering over the rocks. In like manner, for about twenty-five years, he has pointed out some "bear-wallows," not far from the Pillared Palace. These are circular depressions, twenty or more in number, each a yard wide and a foot deep. A thin crust of clay coats them over, and the general appearance agrees very well with the name they have borne so long. About two years ago, I had the satisfaction of proving them to be the relics of flint-works. Happening to remove the clay crust from beside a "bear-wallow," I found a pile of ashes and cinders, and on the opposite side a quantity of flint chips. On examination, each wallow was seen to be thus surrounded by ashes and chips. Further search brought to light hundreds of blocks of flint, each having parallel faces, and about four inches long by one and one half in width, and one half an inch in thickness. Flint nodules abound here, lying in rows in the cave walls, and occasionally in bands or belts. Each has a coating of some grey mineral (that may be discolored flint), and between them is usually a soft, chalky substance, easily cut by a knife. A freshly fractured nodule shows a bright, black surface, in contrast with the dingy, faded blocks near the wallows. This change of color is due to the gradual removal of the traces of iron found with the siliceous. The oblong flint blocks may have been rejected cores; or, more probably, they were split into this form simply for convenience in transportation. The existence of such quantities of flint chips in proximity to them shows that arrow making had gone on there to a certain degree. Pounders, like those in the alabaster quarries, were also found along with the flint blocks, showing by

what means the nodules had been fractured. The only manufactured article dug up in this spot was a little stone saucer, containing a soft, black substance. It has been suggested that this was a rude lamp. Search at the mouth of the cave unearthed quantities of flint chips, and also numerous finished arrow-heads.

The question has been raised, Why the Indians should delve for flint balls amid the dark passages of a cave, when quantities of such spheres are found along the beds of streams, and elsewhere in the open air? The reason is that the latter, having been exposed to the elements, are deteriorated in quality, and break with irregular cleavage. Hence, the Indians sought to obtain flints fresh from the stratum where they were originally deposited, and which, because of their moisture, readily part into quadrangular prisms under the hammer.

Since making public the discovery of this flint mine in Wyandot Cave, I have learned of flint-pits excavated along Indian Creek and elsewhere, in Harrison County, Ind.; and Prof. Collett's observations upon their peculiarities serve to confirm the conclusions to which I had already arrived independently, as to the probable date of these works, the implements used, and the disposition made of the materials obtained.

ABORIGINAL USE OF COPPER IN WAR AND PEACE.

BY PROF. J. D. BUTLER, LL.D.

At the Boston meeting of the American Antiquarian Society, in April, 1879, a paper by Doctor Valentini on the manufacture and use of copper tools was presented, and the same was printed in the proceedings of the Society, No. 73, pp. 81-112. It is an admirable article, showing extensive and discriminating research in that long explored but still exhaustless mine of Mexican archæology,—Lord Kingsborough's collections, as well as in the earliest Spanish chroniclers.

It is just because Valentini is so painstaking and in general so accurate, that an error into which he has fallen is likely to mislead, and deserves to be exposed.

Speaking of the Central Americans and of the northern red men, he says: (p. 81.) "Both were trained to the practice of war, and, strange to say, both had invariably abstained from shaping copper into any implement of war, the metal being appropriated solely to the uses of peace."

But the latter part of Valentini's essay forgets its beginning,—for on the 101st page he says that the Yucatecans "fastened

their copper axes into the top of a wooden handle, *one side serving as a weapon*, the other for cutting wood." Again, (page 103), he shows us a cut of the Nicaraguan *alabarilla* which he says, and justly, "has the shape of a genuine mediæval battle-axe."

It is, however, in reference to the aborigines of the *north* that Dr. Valentini's remark that "they invariably abstained from shaping copper into any implement of war," strikes me with surprise. No copper war-weapon in aboriginal Wisconsin? More than three years ago in an address before the American Antiquarian Society, I described the ancient copper implements deposited at Madison in the Capitol of Wisconsin. Among them were more than a hundred spear-heads, most of them made for attachment to a shaft by a sort of bayonet socket, and sometimes also with a rivet,—the tangs in other cases round, or flat, fish-tailed, or notched like stone spear-points. I also reported in the Madison store more than a dozen axes or hatchets. Other "finds" of like nature have been since discovered in that quarter. In one county at least, Washington, the warlike copper articles brought to light are much more numerous than its townships, and these findings have been made, not in gravel, but on fields of hunting or battle, or most probably of both.

I wish I could lead Dr. Valentini through our Wisconsin prehistoric arsenal,—where we have arranged weapons of stone and copper over against each other as the Popes arrayed pagan and christian tombstones on opposite sides of the Vatican *galleria-lapidaria*. He would be driven either to maintain that our primitive warriors never smote their enemies with spears of stone,—or to admit that as soon as they became acquainted with copper spears, they must have at once adopted them as ten times more effective. In this treasury of resurrected antiques,—he would also retract his ill-considered assertion (p. 81) that "the northern red man attained to his highest achievement in the production of the ax." Nor would he arrogate to the Central American exclusive "knowledge of the uses of the chisel." He has heard of the Central American chisels, but never saw one, and knows not where to find one. I can show him seven Wisconsin chisels at one swoop. After all, Dr. Valentini was less mistaken than an officer of the American Antiquarian Society, who, in his report for 1876 had said: (No. 67, p. 57.) "Recent observations tend to show that American copper implements were not employed as tools or weapons."

Not even as tools! One reason for his opinion may have been that the coppers seen by him seemed too small to be serviceable. In fact, however, many of the Wisconsin finds are as heavy every whit as the chisels, gads, tomahawks, axes, and lances of to-day.

Many of them have also indubitably served as tools. In most cases, to be sure, they have been thus utilized by those who picked them up. But they never would have been, had they not been adapted to be used. Moreover, Whittlesey speaks of a chisel, which, "when first dug up had been battered at the upper end as though it had been used." (p. 19.)

That the early dwellers in the copper country manufactured implements by hundreds suited to service, yet never availed themselves of them, is about as credible as that they caught fish and killed buffalo but never tasted of either.

In fine, the articles exhumed in certain places are the very varieties most desirable for service in those particular localities. Thus gads, or rock-rending wedges come to light near Lake Superior, just where they are required for rending the copper-bearing cliffs. Col. Whittlesey gives a drawing of such a copper wedge there met with. Its top is bruised, evidently by pounding, and he says: "The sharp fractures in stone axes there indicate that they were used to drive metallic wedges." He also thought the logs that lie in the pre-historic mining caves must have been chopped with copper axes. Our tools were clearly used.

The Oriental Department.

EVOLUTION.

BY M. C. READ, HUDSON, OHIO.

The most remarkable ancient cosmogony is that found in the first chapter of Genesis, ordinarily attributed to Moses, but probably of a much earlier origin than the date of the compilation of the Pentateuch. It is alike remarkable for the simple grandeur of the narrative, for the coincidences between its statements and modern scientific theories, and for the facility with which it has been so interpreted as to keep it in harmony with the changing theories of modern times.

The changes in interpretations, made to adjust it to astronomical and geological theories, are well known to every Biblical scholar and need not here be repeated in detail. It will be sufficient to refer to one statement alone, and that is the one that describes the formation of dry land. This is represented as the result of God's command "Let the waters under the heavens be gathered together in one place and let the dry land appear, and it was so." It has long been conceded that this is entirely consistent with the paleological theory, that the sea is

the mother of the continents, and that these have been slowly emerging through countless ages; that this process of continent making is still continued, and that it is all under the control of what we call natural law.

But as it was once assumed that geological theories, now well established, were in hopeless conflict with this cosmogony, so it is now asserted that the latter can in no way be harmonized with modern theories of evolution.

Without undertaking to show how much of truth there is in any of these theories of evolution, or how much of binding authority in science should be conceded to this narrative, it may be well briefly to enquire whether there is or is not any difficulty in adjusting its interpretation so as to leave it in harmony with the most extreme theories of evolution.

The most obvious interpretation of the first two verses of the narrative is that they are merely introductory and intended simply to assert the fact of a Divine Creation; assuming, as all other cosmogonies assume, the existence of the earth and all the materials of which it is composed, the creation described being not the genesis of matter, or of geological strata, but the arrangement in an orderly cosmos of the present "æon"—the fitting up of the earth for and providing it with its present inhabitants. Here it is in full accord with science which does not enquire into the origin of matter, but assumes its existence, and the existence of the forces manifested through it, and only seeks to explain how, through the operation of these forces, the present order of things has been produced. Science teaches also in common with the author of this narrative that there has been a beginning of this æon or cosmos in the study of which it is occupied. For if, as Spencer teaches, all things are tending towards a stable equilibrium, or, as astronomical and geological theories teach, the earth and planets are cooling down from a state of intense heat, or are moving on towards their ultimate homes in the sun, there must have been a finite beginning of these tendencies, else the goal would be already reached.


The beginning of the manifestation of that formative power, which has produced the present cosmos, is described by Moses as the breath or spirit of God brooding or incubating upon the face of the waters. The figure is that of a bird sitting upon its nest, and thus slowly effecting those changes which result in the appearance of new beings. The expression which follows, "And God said 'let there be light,' and there was light," must be read as indicating the result of this influence already described in metaphor, if significance is to be given to all parts of the narrative. It must be considered also in the light of that Hebrew characteristic, which, overlooking secondary causes,

attributes every fact in nature to its primeval first cause. As, "He toucheth the hills (with lightning), and they smoke." "He scattereth the hoar frost like ashes." "He bringeth the rain out of his treasures," etc.

When the writer comes to this introduction of life, he represents all living things as produced by the water or by the earth, as verse 11, "And God said 'let the earth bring forth grass,'" etc., "and the earth brought forth grass and herb yielding seed after its kind, and the tree yielding fruit," etc.; verse 26, "And God said 'let the waters bring forth abundantly the moving creatures that have life, and fowl that may fly above the earth,'" "And God created great whales and every living creature which moveth, *which the waters bringeth forth abundantly*;" again verse 24, and "God said 'let the earth bring forth the living creature after its kind, cattle and creeping things, and wild beast after its kind,' and it was so." These statements do not merely imply but directly assert that all these organisms are born of, or are brought forth by the earth, or the water. The repetition of the statement in another form after each of these passages, "and God made," etc., these different organisms may well be intended to affirm that this work, this bringing forth of living organisms by the earth and by the water, this abiogenesis, is God's work, is the result of that influence over all material things represented in the beginning of the narrative under the figure of a brooding bird.

The order of the appearance of these organisms, so far as it is disclosed, is in full harmony with the order which evolution teaches.

One part of the Mosaic classification is peculiarly significant, that is the grouping of birds with the animals produced from the water, which includes apparently all reptiles. Now ornithological embryology shows that all birds were originally aquatic and web-footed. They are shown by biologists to be closely allied to reptiles, being grouped in the same class by Huxley, but until the theory of evolution was advanced in modern times no naturalist assigned them their true place as accurately as is done in this first chapter of Genesis. Whatever havoc destructive criticism may make with the Mosaic record, this remarkable fact will remain, that its author has assigned to the birds their true place in the orderly arrangement of the animal kingdom as determined by the facts upon which the theory of evolution is based, while it is a position which apart from the study of these facts would be regarded as absurd. Birds fitted to run and walk upon the earth, to swim upon the waters and fly in the air, seem to the casual observer to be the most highly organised of all animals. But their true place as demonstrated by modern research is next to the reptiles to whom they are closely



allied in structure, and with which they are directly connected by extinct reptilian forms.

The attempt to find in the six days of creation six definite geological epochs has not been satisfactory, either to the Biblical student or the geologist, probably because the writer did not intend to describe the formation of geological strata or extinct forms of life. In a few lines the original genesis of living organisms is described, and this is described as an abiogenesis, or bringing forth of them by the water and the earth, and this is the theory of the most extreme evolutionist.

The theist, who is also an evolutionist, believes that the primal force of which all organisms are the product, is the divine will, operating continuously through what we call natural law. He believes that the spirit of God broods over the water and is present in, or is represented by, all the forces of nature, and that he who could understand fully the simplest organisms, would know more of that great first cause that it is permitted to man, with his limited faculties, to know.

"Flower in the crannied wall,
I pluck you out of the crannies,—
Hold you here, root and all, in my hand
Little flower,—but if I could understand
What you are, root and all, and all in all,
I should know what God and man is."

This is the spirit with which a theistical evolutionist studies nature, a spirit with which the author of the first chapter of Genesis is in full accord.

A BEAUTIFUL EPIGRAM OF THE EMPEROR AUGUSTUS.

Prof. Dr. Hagen has discovered in a Bernese manuscript of the tenth century a hitherto unknown epigram of Augustus Caesar. The greater part of it is written in ancient stenographic characters or Tironian notes, and runs as follows:

* OCTAVIANI AUGUSTI.

"Convivæ! tetricas hodie secludite curas
Ne maculent niveum nubila corda diem!
Omnia sollicitæ pellantur murmura mentis.
Ut riset indomitum pectus amicitie
Non semper gaudere licet: fuxit hora, jocemur!
Difficile est Fatis subripuisse diem."

THE GAN-EDEN OF GENESIS.

BY O. D. MILLER, NASHUA, N. H.

The *substantial agreement* of the primitive traditions respecting the first abode of man on earth, as they had been inherited by the oldest civilizations known to history, is now a fact fully acquired to pre-historical science. Not only this, but the data which, until the present century, were almost wholly wanting, to give to the question of the actual geography of Eden anything but a speculative, conjectural, not to say fanciful character, have been now supplied, thanks to the results of modern criticism, sufficiently, at least, to afford the necessary basis and conditions for a scientific treatment of the problem. The result has been that, guided by the established facts, and by the essential conditions of the problem dictated by these facts, a well-defined theory has been elaborated; a theory which is held to-day by many of the best critics of Europe, if not also of America. According to this hypothesis, the actual cradle of the human race, as well before, as after the deluge, was the great plateau of Pamir, in central Asia, known as the most elevated tract of country on the globe. It was there, in fact, that the earliest traditions of nearly all the Asiatic nations centered, as having been the common home from which the various races of men originally departed for the distant countries subsequently inhabited by them. It was there, on that mountain-plain which overlooks all Asia, and which, apparently, was the first to rise above the waters both of the primordial chaos and of the devastating deluge, that was planted the first civilization known to history, and from which the earliest known men had inherited their fundamental ideas and doctrines. It was there, finally, that religion and knowledge, and the primitive notions of the origin of things, had their birth, being transmitted from thence to the most distant climes, and to after ages.

In any scientific treatment of the problem which relates to the geography of Gan-Eden, and which is to occupy us in the present article, it is necessary to take into account certain fundamental conditions of its solution, which are dictated by the facts now known. These conditions are:

First. To find a terrestrial region whose natural characteristics and geographical features correspond to the uniform tradition respecting the primitive home of man, as well as the Biblical descriptions of it. The chief physical characteristics of the terrestrial paradise, according to Scripture and uniform tradition, were the following: (a) It was conceived as an ele-

allied in structure, and with which they are directly connected by extinct reptilian forms.

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vated, mountainous region, or, better, as a mountain plateau. The prophet Ezekiel (xxviii, 13-16), refers to Eden as the "garden of God," and as "the holy mountain of God." Isaiah, also (xiv, v. 13, 14), alludes to the *Har-Moed*, or "Mount of the congregation in the sides of the north," or in the extreme north. That the *Har-Moed* was one with the Mount of Paradise, is admitted by many critics, as will be shown hereafter.¹

(b) The water system of Gan-Eden was quite extraordinary: four great rivers took their rise within the limits of this traditional country, all proceeding from the same source, or, at least, from the same immediate vicinity, and taking their course toward different quarters of the globe. Not only the Scriptures, but the various inherited traditions, render this physical characteristic of Paradise very prominent. (c) It results from the features just noticed that the location of Gan-Eden was *around the sources* of that water-system with which it was connected. This follows, not so much from the individual terms employed in the Mosaic description, as from the general tenor of it. The four rivers could not possibly take their rise from the *one source within* Gan-Eden, if it were not situated around their sources, and these were naturally to be sought in a mountainous region (as before mentioned). It was not located at the mouths of these rivers, nor did it border upon them at a distance from their sources, and so Dr. Faber very properly insisted upon the point that it is necessary to look for Gan-Eden in a mountainous region, and around the sources of the river-system associated with it.²

Second. Another condition of the problem is, that uniform tradition identified the Mount of Paradise with the Diluvian Mountain, or that upon which the ark rested after the deluge. M. Lenormant, M. Abry, Dr. Faber, and others, take especial note of the fact here stated, and Dr. Faber labors to prove the reality of this identity.³

Third. To find that locality from which it is reasonable to suppose, according to known facts, that the various races originally departed to occupy the countries where we find them settled at the opening of the historical period. This condition depends, of course, upon the one last stated, or, upon the identity of the Diluvian with the Paradisaical mountain.

Fourth. To find the country to which it is possible to retrace the steps of the different races, by the aid of their traditions, and the assistance of linguistic science, along the routes orig-

1. NOTE.—Respecting Paradise conceived as a sacred mountain, see Dillmann, in Schenkel's *Recht-Lexikon*, B. ii, S. 49. Cf. Gesenius' *Jesaja*, 1st Beylage, B. ii, SS. 316-326, and Faber, *Origin of Pagan Idolatry*, i, pp. 12, 13, 20, etc.

2. *Pagan Idolatry*, i, p. 208.

3. Lenormant, *Fragmente de Berosus*, pp. 305-304. Abridg. DuBerceau de l'espace humaine, pp. 4 & 5, 25. Faber, *Pagan Idol.*, i, pp. 13, 20, 157, 331, etc., etc.

inally followed by them, in their migrations from the common center of populations. This condition, also, presupposes the identity of the two sacred mountains, as being the first abode of man both before and after the deluge.

Fifth. There was a distinct astronomical element in the traditions relating to the birth-place of humanity, to be noticed more at length hereafter. In other terms, there was a celestial paradise, the seat of the heavenly powers, directly associated with the terrestrial paradise, the abode of primeval humanity. The scriptures distinctly recognize the existence of a celestial paradise. Thus, on the phrase, "The tree of life, which is in the paradise of my God" (Rev. 11: 7), Prof. Moses Stuart (Com'ts *in loc.*), remarks: "The tree of life is here spoken of, beyond all doubt, in reference to a *celestial* paradise; comp. Rev. xxii: 2, where it is spoken of as belonging to the *γη καινη* (*renewed earth*), as an appendage of "the abode of the blessed." Such, precisely, were the notions connected with the great Asiatic Olympus, the conceived Mount of Paradise, of which hereafter. The condition is, then, to find the locality with which tradition connected this astronomical element; a celestial with a terrestrial paradise.

It is a fact, as we shall see, that the location of Gan-Eden upon the great plateau of Pamir, according to the theory now held by many of the most reputed European critics, actually realizes every one of the conditions here laid down; and it was in following these guides to the truth that this result was first attained.

As previously intimated, until the opening of the present century, the investigations of scholars relative to man's primitive home had been productive of no result, except to render it hazardous for the reputation of any critic, even to attempt to locate the Mosaic geography of Eden. The first series of investigations in modern times, that gave some promise of success in this direction, was conducted by Col. Wilford, and published in the "Asiatic Researches," dating from about the year 1818.⁴ Owing to the unreliable character of some of his authorities, this author was misled upon many points; yet he fully established certain leading facts, which served to indicate, at least, the direction in which the investigations ought to proceed. He was followed by such eminent critics as Ewald, Lassen, D'Eckstein, Burnouf, Obry, Renan, Lenormant, and others, who may be said to have settled forever the main points of the problem, as follows:

First. That there exists a remarkable argument respecting the primeval abode of man, between the earliest and most

4. NOTE.—For Col. Wilford's first paper, see "On Mount Caucasus." *Asiatic Researches*, Vol. VI, pp. 455-536. Other papers were published in succeeding volumes.

authentic traditions, as preserved by the two great branches of the Aryan race, that is to say, the Aryans of India and of Persia.

Second. That a like substantial agreement may be traced between the Aryan traditions generally, and those of the Semitic races, particularly the Hebrew account in Genesis.

Third. That the common point of departure, for all the peoples inheriting these traditions, was outside the countries inhabited by them at the opening of the historical epoch.

Fourth. All the traditions conduct to the region of the Hindu-Caucasus, or the high table-lands of Central Asia, as that from which the races of men originally departed, both before and after the deluge.⁵

It will be impossible, of course, in one short article, to go over the whole ground of these researches from the original sources, or even to present at length the results of previous investigations. We can refer the reader to those treatises in which all the essential facts are established, and the general theory elaborated.⁶ The investigations of the distinguished authors cited below, all tend to the same conclusion, which is admirably stated by M. Renan, as follows:

"Thus, everything invites us to place the Eden of the Semites in the mountains of Belurtag, at the point where this chain unites with the Himalayas, towards the plateau of Pamir. . . . We are conducted to the same point, according to E. Burnouf, by the most ancient and authentic texts of the Zend-Avesta. The Hindu traditions, also, contained in the Mahabharata and the Puranas, converge to the same region. There, is the true *Meru* (of the Hindus), the true *Albordj* (of the Persians), the true river Arvanda, from whence all rivers take their source, according to the Persian tradition. There, is, according to the opinions of almost all the populations of Asia, the central point of the world, the umbilic, the gate of the universe. There, is the *Uttara-Kura*, "the country of happiness," of which Mages-thenes writes. There, is, finally, the point of common attachment of the primitive geography, both of the Semitic and the Indo-European races. This coincidence is one of the most striking results to which modern criticism has conducted; and it is remarkable that it has been reached from two opposite directions at one and the same time, namely, through Aryan studies on one hand, and Semitic studies on the other."⁷

5. For the investigations establishing these facts, the reader is referred to the various treatises to be hereafter cited.

6. Such treatises are principally the following: Obry, *Du Berceau de l'espree humaine*, pp. 1-210. Renan, *Histoire generale des langues Semetiques*, pp. 475-484, and *L'Origine du Language*, pp. 219-240. Lenormant, *Fragmenta Cosmogoniqua de Berceae*, pp. 300-333. J. Grill, *Ersväter der Menschheit*, etc., pp. 197-242. M. Senart, *Journal Asiatique*, April-May, 1874, pp. 242-302. G. Maspero, *Histoire Ancienne de L'Orient*, p. 132.

7. *Histoire Generale*, etc., pp. 480, 481.

Referring to the same locality, and to the plateau of Pamir, M. Maspero remarks:

"There, in effect, and there alone, we find a country which satisfies all descriptions, geographically speaking, preserved in the sacred books of Asia. From the plateau of Pamir, or, better, the mountain mass, of which this region is the central plain, four great rivers take their rise, the Indus, the Helمند, the Oxus and the Jaxartes, which flow in directions the most diverse, well answering, in this respect, to the four sacred rivers of tradition."⁸

We have not the space here for extracts from the other authors cited, nor is this at all necessary, since they all agree upon the leading and most essential points. The Meru of the Hindus, the Albordj of the Persians, was, then, according to this theory, the first abode of man, both before and after the deluge. Since the Mount of Paradise, and the Diluvian or Arkite Mountain have been identified, critics generally agree that the *Har-Moed* of Isaiah, or "mount of the congregation," was one with Meru or Albordj; so that the Aryan and Semitic traditions were in perfect accord upon this point.⁹ This was, in fact, the great Asiatic Olympus, of which the Greek Olympus was doubtless but a traditionary reproduction. But we notice here some striking coincidences in the conceptions of these sacred mountains.

First. One of the chief characteristics of the *Har-Moed* was its location "in the extreme north," for such is the proper sense of the Hebrew phrase which the translators render "in the sides of the north." This accords perfectly with the Hindu conception of Meru, which was placed also in the extreme north, insomuch that its summit was thought to penetrate the heavens exactly in the region of the north celestial pole, termed Su-Meru by the Hindus.

Second. Not only for the Hindus, but for nearly all the populations of Asia, the seat of the heavenly hierarchy, the celestial paradise of the Gods, was precisely this region, centering in the pole-star, and penetrated by the summit of the sacred mount. The Hebrew conception of the *Har-Moed* was quite similar. The language which Isaiah puts into the mouth of the ungodly king of Babylon, is sufficient proof: "For thou hast said in thy heart, I will ascend into heaven, I will exalt my throne above the stars of God; I will sit also upon the mount of the congregation, in the sides of the north; I will ascend above the heights of the clouds; I will be like the Most High."

⁸ Histoire Ancienne, etc., p. 132.

⁹ On the identity of the *Har-Moed* with Meru or Albordj, see Gesenius' *Jesaja*, B. ii, s. 236; and Hebrew Lexicon, by Robinson, Art. *Lopu*, 2, A. Wilford, *Asiatic Researches*, vi, pp. 486, 489. Lenormant, *Fragments de Berosé*, p. 318, and other eminent critics.

Ch. xiv: 13, 14. Here, *El* and *Eloha*, two names of Divinity common to nearly all the Semitic races, are placed in immediate connection with the *Har-Moed*, one with the Meru of the Hindus, just as for the Hindus the seat of the heavenly powers was the summit of this sacred mountain.

Third. The prophetic allusion to the "stars of God" is important to be considered. The name for "God," here, is the Hebrew *El*, which is a *personal name*, just as much as *Yahveh*, or Jehovah. The proper rendering, then, is "the stars of El," referring to a particular group of stars, instead of "the stars of God," understood of the whole starry heavens. To what particular group, then, did the expression, "the stars of El," refer? In nearly all the traditions relating to the great Asiatic Olympus, the Meru of the Hindus (one with the *Har-Moed* of Isaiah), the seven stars of the Great Bear, the *Septem triones* of the Romans, were directly associated with it. Indeed, as held by M. Obry, and adopted by M. Lenormant, the primitive name of Meru was *Arya-ratha*, "the chariot of the Aryas," in allusion to the seven stars of the chariot, or of the Great Dipper, which seemed to roll around the summit of this sacred mountain. Now, since "the stars of El" are by the prophet especially associated with the *Har-Moed*, and since, according to the general opinion of critics, the *Har-Moed* was one with the *Arya-ratha*, or Meru of the Hindus, there seems to be little doubt that "the stars of El" were identical with this group of seven stars, uniformly associated in tradition with the Asiatic Olympus. Thus, not only the celestial paradise, conceived to be united to the terrestrial by means of the sacred mount, but this particular group of stars, constituted the astronomical element already referred to, in the various traditions relating to the Mount of Paradise, identified with the Diluvian Mountain. As will be seen, the facts included under the three foregoing heads, afford ample confirmation of the received opinion, which identifies the *Har-Moed* with Meru or Albordj; and the agreement of the Aryan with the Semitic traditions respecting this sacred mount, is very striking.

For the support of the theory, whose chief points have been now presented, we have to depend mainly, for want of space, upon the investigations of the eminent critics whose treatises have been already cited. But there are several facts, connected with the traditions of individual nations, which demand here an especial notice, particularly as some of them have not been before brought forward in treating upon the subject of this article.

First. The Aryans of India and of Persia. That the Hindus and Persians regarded Meru or Albordj, as the first abode of man both before and after the deluge; and that their inherited

traditions fixed the location of this sacred mountain, in the high regions of the North, or upon the plateau of Pamir, are points so well understood and so fully settled, as to render it unnecessary for us to attempt any further illustration of them. As before intimated, the Hindus and Persians located the Celestial Paradise upon the summit of this mountain, identifying it with the celestial region centering in the Pole Star. Thus the Celestial and Terrestrial Paradises were conceived to be united by the sacred mount itself, which joined the heaven and earth together like a vast column or pyramid in stages. These various notions, common to the populations of Central Asia, will be found to have prevailed extensively in Western Asia, on one hand, and in the remote East on the other.

Second. The Chaldæo-Assyrians, or Babylonians. In one of the inscriptions of Sargon, King of Assyria, occurs this important passage: "*Ili Ea Sin Shamas Nabu, Bin Adar va hirati-sunu rabati sa ina kirib bit-harris rab mot Satra mat aralli kinis aldu*;" The gods Hea, Sin, Shamas, Nabu, Bins, Adar, and Hien, great spouses, who are born forever in the interior of the great Bit-Kharris of the East country, and in the country of the Aralli."¹⁰ Rendering this passage very nearly as above, Mr. Lenormant offers some interesting comments upon it, which we reproduce:

"This is, as we see, a luminous and celestial region, like the East, which serves as the abode of the great divinities, and of which the temples *Aralli* are the image. Such a description corresponds perfectly to the *Qagqadu* or *Bit-Sadu*; that is to say, to the culminating space of the superior hemisphere of heaven (north Celestial Pole). As to the *Bit-Kharris*, the house well built, which the passage cited represents as the palace of the gods, it is situated at the same time in the *Kurra* (*Assyr. Satra*) and in the *Aralli*; that is to say, in the East, and in the direction of the point which serves as the pivot of rotation of the superior heavens; we believe, then, that it is necessary to locate upon the summit of the Paradisiacal mountain of the Northeast, which unites the heaven and earth like a column, the *Har-Moed* of Isaiah (xiv. 4-20), of which we have studied already the conception."¹¹

Abundant facts might be presented, if we had the space, proving the strict accuracy of M. Lenormant's interpretation of this passage from the text of Sargon; although various and contradictory opinions respecting it have been put forth by other Assyriologists. In the first place, we know that for nearly all the Asiatic nations, the celestial paradise, the conceived abode

¹⁰ Botta 153, 12, l. 156. Cf. Norris' *Assyr. Dictionary*, p. 52.

¹¹ *Fragments de Berosé*, pp. 292, 293.

of the great divinities, was located precisely in the extreme northern heavens, in the region centering in the pole-star, and penetrated by the summit of the sacred mount, the Meru of the Hindus, Alborj of the Persians, the Har-Moed of Isaiah. Thus M. Lenormant very correctly identifies the *Bit-Kharris* and the *Aralli*, the abode of the great divinities, with this culminating space of the superior heaven, centering in the pole-star. Hence, also, the Accadian expression *Mat Kurra*, the Assyrian *Mat Satra*, must be understood here of the East, the same as *Im-Kurra*, the ordinary phrase denoting the East, considered as a cardinal point. In the passage from Sargon's inscription, the Assyrian *Bit-Kharris*, *Mat Satra* is the Accadian, *E-Kharsak* *Mat-Kurra*. As is well known to the Assyriologist, the meaning of *Kharsak* is "Mountain," while *E*, Assyrian *Bit*, signifies "temple." Finally, *Mat-Kurra*, means "the east country," or, "the country of the east." We have here, even to the most minute details, an exact reproduction of the Aryan conception of Mt. Meru, or Alborj, with its accessories. Here is the abode of the Heavenly Hierarchy, located on the summit of the *Kharsak*, or sacred mount, which penetrates the heavens exactly in the region of the pole-star. As regards the *Aralli*, its reference to the abode of the dead, particularly of the sainted dead, is an undoubted fact, and it is well known that the Hindus located the abode of the blessed upon the shining slopes of Meru.

We prove here the perfect agreement of the traditions of the Semitic Assyrians and Babylonians with those of the Aryans of India and Persia, and we have identified already with the Meru of the Hindus, the *Har-Moed* of Isaiah, and its accessory ideas.

The fact that the primitive traditions of the Assyro-Babylonians centered in the far east, or northeast, especially in this sacred mount of the east, as having been the home of a civilization prior to that of Babylon, is abundantly manifest from a careful study of the cuneiform inscriptions; but for want of space we must confine our proofs of this fact to the data already submitted. As will be seen, all this harmonizes with the Mosaic record, which traces the migration of the founders of Babylon from the diluvian mount in the east to the plains of Shinar.

Third. The Chinese. Heretofore, the investigations of scholars, relative to the primitive home of man, have been confined mostly to the traditions of the Indo-European and Semitic races, and very few facts have been discovered as yet, appertaining to this subject, in the traditions of Turanian races, if we except those of Babylon, the supposed authors of the cuneiform writing and early literature. But Dr. Gustave Schlegel, in his recent voluminous treatise on "Chinese Uranography," reports a curious legend of the Tortoise, the ordinary Chinese symbol of

the *Kosmos*, which points unmistakably to the sacred mount of the Aryans of India and Persia. This legend proceeds thus:

"To the west of the mountain *Ques Kiao* is the lake of stars, which is a thousand Chinese *li* in length. In this lake is a divine *tortoise*, which has eight feet and six eyes. Upon its back it carries the images of the northern measure (or bushel, the seven stars of the Great Dipper), of the sun, moon, and the eight celestial regions. On its under shell it has the images of the five summits, and of the four canals." "That is to say," adds Dr. Schlegel, "upon the back of this animal is traced the celestial map, and on its belly the terrestrial."¹²

But these maps represent not the entire heaven and earth, but those particular celestial and terrestrial regions associated with the traditionary Mount of Paradise. This tortoise, in fact, is an image of the *Cosmos*, consisting of heaven and earth; but it is that particular, limited *Cosmos*, as known to the first men. The original reference of this legend to Mt. Meru and its accessories cannot be doubted. *First*. The northern measure, or bushel, is fully identified by the author with the group of seven stars in the Great Bear, whose uniform connection with the Sacred Mount, in tradition, has been already shown. *Second*. We have "the eight celestial regions." For the reason that the summit of the sacred mount penetrated the heavens, in the region of the pole-star, the point of intersection of the colures, the Aryan traditions uniformly associated the eight celestial regions, the four primary and the four intermediate, with the summit of this mountain. Here was, in fact, the point of generation for all these regions. *Third*. On the under shell of the cosmical tortoise was the image of the "five summits." In Hindu tradition, Mt. Meru was surrounded, in the direction of the cardinal regions, with four other abutting or supporting mountains, held in veneration almost equal to that of Meru itself. These four mountains, with Meru itself, constitute the "five summits" of the Chinese legend. *Fourth*. Finally, we have the "four canals," which relate obviously to the four sacred rivers of Paradise. This is confirmed by the statement of M. Obry, in allusion to a celestial sphere, "half Indian, half Chinese, which presents the four paradisiacal rivers of the Chinese . . . under the common name of *See-Tu*, 'the four canals,' a title by which the learned of China designate their four sacred rivers."¹³ These four characteristic features of the legend of the tortoise leaves no room for doubt; the Chinese had inherited the same traditions respecting the sacred mount, the conceived first abode of man, as those preserved by the Aryans of India and Persia.

¹². *Uranographie Chinoise*, etc., p. 61.

¹³. *Du Berceau*, etc., p. 181.

Fourth. The Haranite Sabæans. The fact that the Aramiac populations of northern Mesopotamia, especially the Sabæans of Haran, one of the oldest cities of the world, had preserved traditions quite in accord with those already passed in review, is familiar to orientalists. The recollections of the primitive ages of man, constituting some of the most important elements of the Haranite cultus, were embodied in the so-called "Mysteries of Shemal," Hebrew *Semol*; an exhaustive investigation relative to which was published many years ago, by Prof. D. Chwolsohn, of St. Petersburg.¹⁴ This ancient Semitic word *shemal*, or *semol*, appears in the cuneiform texts under the form of *su-mi-lu*, and signifies "the left," "the left hand," thence put also for the north, the north pole, corresponding thus to the Su-Meru of the Hindus. It is well known that the Haranites associated the seven stars of the chariot or dipper with the cultus of *shemal*, the pole-star, which was thus the eighth in relation to the group of seven. The facts prove, indeed, that the Haranites had preserved the traditions relating to the sacred mount of the north-east, and that the worship of *Shemal* had its origin from that locality.

Fifth. The Greeks and Romans. M. Lenormant calls attention to the Greek phrase *meropes anthropoi* (μέρονες ἄνθρωποι) employed by Homer, and he translates it, "The men issued from Meru." M. Renan had previously suggested the same rendering, and so M. H. Estienne, in his "Thesaurus," published by Didot. If this be correct, it proves that the Greeks had inherited the traditions relating to Meru. It is well known that the Romans placed the seat of the gods in the extreme north, and Hr. Nissen affords us some proof of it, in his remarks upon the Pantheon:

"The axis of the temple was fixed at only 5° westward from the pole. The seven gods of the Pantheon were the *Septem Triones*, to be compared to the seven oxen (seven stars of the Great Bear), which never disappear from the sky in their revolution round the pole. The position of the seven stars was one of the grounds for the location of the temple, and the reference to the seat of Jupiter in the eighth region (or Su-Meru) another."¹⁵

Here, too, we discover distinct traces of those primitive notions associated with the great Asiatic Olympus. That the ancient *Asgard* of the Norse Mythology was a conception derived originally from Meru admits of but little doubt, and it is now conceded by a large number of the best critics. We take no notice here of the Hamites of the Nile valley, for the reason that

14. See *Die Ssabier und der Ssabismus*, B, ii., ss. 319-364.

15. *Das Templum*, etc., p. 225.

to develop the facts relative to their earliest traditions would require more space than we can afford in the present article.

We close here our brief review of the traditions inherited by the nations of the ancient world relative to the original center of populations and the primitive abode of man. We see that everywhere, almost, these traditions point to the great Asiatic Olympus, the Meru of the Hindus, as the region from whence all the races departed after the deluge; and since the Arkite and Paridisiacal mountains were identified, such must have been the original point of departure before the deluge.

We have now placed before the reader some of the leading facts constituting the basis of the theory, which locates the Gan-Eden of Genesis on the high table lands of Central Asia; more definitely upon the plateau of Pamir, the most elevated tract of country upon the globe, and which is properly termed by the natives of this region "the dome of the world." Geologically speaking, here, would naturally be the place, before all others, for the first appearance of man on earth, since it was obviously the first to rise above the waters of the deluge and the primordial chaos. We have not the space here to answer in detail the objections to this theory, and must refer the reader for such answers to the treatises already cited on this subject. Nor can we compress within our limits any detailed notices of the conflicting theories which have been from time to time put forth. Still, a few remarks bearing upon these points should find place here.

Perhaps the most current theory opposed to the one here presented, is the one which locates the Gan-Eden on the Middle or the Lower Euphrates. Some eminent Assyriologists have believed to find in the inscriptions very clear and positive proofs of this hypothesis, and the enumeration by Moses of the *Hiddekel* (Tigris) and *Enphrates*, among the rivers of Gan-Eden, has seemed powerfully to favor this view. But we must call to mind the universal habit of migratory races of transferring the names of rivers, mountains, etc., in the mother country to like objects in the new countries colonized by them; a habit of which New England furnishes abundant examples. Moreover, it would seem from a fact stated by Rev. A. H. Sayce, that the Euphrates of our geographies, on whose banks Babylon was situated, could not have been the Euphrates to which Moses refers. The fact stated by Prof. Sayce is as follows: Two of the rivers of the Garden of Eden are expressly stated to be the Euphrates and the Tigris, under its old Accadian name *Hiddekel*, and I have found *Gikkhan*, the exact representative of *Gihon*, given as a synonym of the Euphrates (2 R. 35, 1, 6)."¹⁶ A careful exam-

¹⁶ Trs. So. Bib. Arch., i., p. 300.

ination of the texts cited seems to confirm Prof. Sayce's statement. But Gikkkhan-Gihon is another river than the Euphrates, as named by Moses. If the original name of the Euphrates of Babylon was Gihon-Gikkkhan, then this was not the Euphrates intended by Moses. But the great objection to the theory which locates the Gan-Eden on the Middle or Lower Euphrates is to be found in the essential conditions of the problem, as stated at the opening of the present article, namely, that the Eden of Scripture and of uniform tradition was a mountainous region, and was located around the sources of the river system, rather than at the mouth of any river. Finally, according to known facts, it is wholly improbable that the Aryans of India and Persia, the Turanians of China, etc., etc., ever departed from the valley of the Euphrates towards the countries subsequently inhabited by them. The tradition of these races, and all the known facts prove the contrary. Even the founders of Babylon, when they left the Arkite Mountains "journeyed from the east" to the land of Shinar. There is not a single condition of the problem, in fact, as previously laid down, that the theory in question realizes.

The theory which locates the Mount of Paradise and the Diluvian Mount upon the plateau of Pamir, identifying them with each other, not only accords with the earliest and uniform traditions of the ancient nations, both as to their own primitive home and that of the human race itself, but it fully accords with the Mosaic text of Genesis, according to its most obvious intent. The attempt to construe the expression "from the East" in harmony with the situation of Ararat in Armenia, nearly due north from Babylon, is only one of those strained interpretations to which many current theories subject the exegete. From the high table lands of Central Asia, as their original point of departure, it is easy to trace the various dispersions of the races over the globe, and this in harmony with their own traditions respecting their primitive abode; and this is the theory, probably, which the ethnological, linguistic, and other sciences will ultimately enforce upon the biblical exegete.

Dr. Faber very properly located Gan-Eden around the sources of the sacred rivers, and in a mountainous region, but he identified the mount of the deluge with that of Paradise, and both with Ararat, in Armenia. Here was his manifest error. As held by M. Obry and M. Lenormant, the name *Ararat* was a corruption of *Arga-rutka*, originally applied to Meru or Albordj, the true Asiatic Olympus, and central, converging point of the primitive traditions of all the Asiatic nations. The corruption of the Aryan name *Arga-rutka* into its Semitic form *Ararat*, and its later transfer and application to a mountain in Armenia,

is a supposition quite probable, in view of all the known facts. It would seem, indeed, that the original name of Ararat was Mt. Masis, that of Ararat being a later application.

One point demands a brief notice before concluding the present investigation. Allusion has been made to the *Kharsak Mat Kursa* of the cuneiform texts. We notice that some eminent Assyriologists, of the English school, are inclined to locate the *Kharsak* among the mountains or highlands of Elam, directly east in relation to Babylon. We find ourselves compelled to reject this view. The passage from the text of Sargon, already cited, demonstrates, in our view, that the *Kharsak Mat Kursa* has to be identified with the great Asiatic Olympus, the Meru of the Hindus, is one with the *Har-Moed*, according to the general opinion of critics. The passage from Sargon shows that the *Kharsak* and *Aralli* were conceived as the abode of the great divinities. As before stated, for entire Asia, this seat of the heavenly powers, the celestial paradise itself, was located in the extreme northern heavens, centering in the pole-star, and penetrated by the summit of the sacred mount. Such were the notions of the Hindus, Persians, Romans, etc., and obviously of the Assyro-Babylonians. Now, it would be impossible to find a locality among the mountains of Elam with which tradition connected any such ideas. Thus, there can be no doubt, we think, that both the *Kharsak* and the *Aralli* were to be identified with the sacred mount of Aryan tradition, with whose conception, in all its details, they so fully accorded.

It would not be difficult to show, not only that this Olympus of all Asia was the first abode of man, before and after the deluge, but that it was the center of a great and noble civilization, from which, as heretofore remarked, the oldest known to history inherited their fundamental ideas and doctrines. It is obvious, we think, that the primitive cosmogony centered in this sacred mount, and so the notions of the Heaven-Father and Earth-Mother, and various other ideas fundamental in the primitive religion. But it is idle to make statements such as these, when we have no space in which to verify them. Thus, we await another opportunity.

O. D. MILLER.

NASHUA, N. H.

CORRESPONDENCE.

To the Editor of the American Antiquarian:

I send you a few facts in regard to the Twana, Clallam and Chemakum Indians of Washington Territory:

1. *The Chemakum Language*.—This tribe is situated between the Clallam, Twana, Nisqually and Skokomish Indians, yet its language seems to have little in common with either. Out of seven hundred and eighty words, which I obtained in the Chemakum language, I find but twenty-nine which have any similarity to the Clallam language, a tribe amongst whom they have been largely intermarried; six with the Twana language, and six with the Nisqually, which is similar to the Skokomish. Many of these look as if they had been adopted from the other languages owing to their proximity, rather than that they had the same origin. Nearly all the words of most common use, as man, woman, terms of relationship, rain, water, dog, horse and the like show no similarity. The words for horse and Boston, which are almost alike in nearly all the other languages on or near Puget Sound, are entirely different in the Chemakum. This goes to prove the truth of a tradition which they have, that in some former time they drifted to their present locality from far away, probably from the Quilleyute country, from which they are now separated by the Clallams and Makahs. I have never been able to obtain many words from the Quilleyute language except the numerals, but these show considerable similarity, and their tradition says that they originally came from that tribe. The words which have originated among them since the whites first came, often show an ending of *tl*, similar to the Mexican termination as well as that of many words of the Makah Indians, but this is seldom seen in their words of ancient origin.

Food and Superstition.—O *Ts'i-kwüt* is the name of a peculiar kind of fish, with horns, used as food by the Twanas. It is speared in shallow water. They do not dare to clean them in their canoes where they catch them, but wait until they get to land, for if they should throw their entrails into the water, no more fish of the kind, they believe, would ever go to that place.

Bait for Beaver.—An ox horn is sawed off to the length of about four inches and filled with beaver grease. Some of this is rubbed both on and around the trap, and the horn is hung over it. The beaver scents this, and in trying to get what is in the horn "puts his foot in it," and so is caught in the trap. I have never seen but one such bait, and that was among the Twanas.

Funeral Customs and Superstitions.—A white man near the Twana Indians, lost his wife, after an expensive sickness, when one of their doctors said to me: "Your white customs are bad; see that man has paid large bills, and now has lost his money and his wife—all gone. Not so the Indian. If a man's wife dies, he pays the doctor nothing, and so does not lose all; generally, indeed, the doctor has to pay the man something for not curing the patient."

In March, 1879, a woman died at Kolsid, about forty miles from the Skokomish reservation. She was the wife of a Twana Indian, but he had lately obtained her from the Olympia Indians, who live thirty miles away in another direction. Three weeks after her death she was brought to the reservation, being well wrapped in cloth. A coffin was then made for her; much of the cloth was taken off, some of it quite roughly; her head was untied, considerable money put in her mouth, after which it was tied up again, and with shoes, calico and blankets, she was put in the coffin. Her friends soon after took her in a wagon to Olympia for burial. Usually they are very superstitious about going near the dead, but there was apparently neither fear or superstition about this act, for she smelt very badly.

In September, 1879, a boy from the Chehalis, forty miles to the south, died on the Skokomish reservation. He and his parents have relations on it, and have spent two or three of the last winters on it, as well as the two months before his death. Yet he must be taken to his native land for burial. So they bound him up very roughly in a quilt, and as they had no wagon they tied him on a horse, in a very barbarous manner, with his head rolling around, and with two friends started for the Chehalis. Usually they are quite careful of their dead, but once in a long time they seem to handle them very roughly.

In February, 1880, the relations of the wife of a Twana Indian were dying at the Puyallup reservation, sixty miles away. Harry Charley, a relation of hers, wrote that his father had died, and more recently his sister. Whereupon the Twana Indian wrote to him, saying, "I am afraid to have you stay there longer; afraid you will die too. I wish you would come here, even if only for a short time; but if you will come and stay until you are grown, I will take care of you and send you to school. I wish very much to have you come." He did not come, however, probably owing to the influence of other friends at Puyallup.

In March, 1880, quite an excitement arose among the Twana Indians. An Indian doctor has three wives, one being a Skokomish woman and another a Twana. One of the children had recently died, and the Skokomish woman cut off some of the hair from the Twana woman's head while she was asleep, and

secretly hid it with the dead child, so that it was thus buried, with the belief, which all the Indians hold, that when this is done, the one whose hair is thus buried will soon die. After a time, from some remark made by the Skokomish woman, it leaked out, when all was excitement. She tried to deny it; but the Indians were determined to investigate it, and with the agency physician went to the grave to search for it. The guilty woman also went, and while they were at work opening the grave, she dug and clawed for it with her hands, but they were too quick for her and secured the hair. When the physician asked her why she did it, she replied that she wished to kill the other woman. The Indians held a court over it, and banished her to the Skohomish, about one hundred miles distant, with the expectation, however, that her relations would come after a time and pay damages, when she will be restored to her old position.

Usually they are very careful of their grave-yards, and often spend much money in fixing them up, year after year. The one at Sequim, among the Clallams, is, however, an exception to this. It is in a very poor place, being on a sand spit, where the wind is constantly blowing, shifting the sand and uncovering the dead. In April, 1880, I visited it, and found twelve skulls lying around uncovered, as well as other bones. Glass beads and dentalia shells, formerly used as money, but not a stone implement, could be seen. They still use this as a burying ground.

Skokomish, Washington Ter.

M. EELLS.

ROCK-MADE EFFIGIES—THE WORK OF THE RED MAN.

To the Editor of the American Antiquarian:

The close analogy in style between the pictorial writing of our recent Indians, made upon trees, pieces of bark, skins, blankets and lodges, to the effigies carved upon rocks in numerous localities, has led archæologists to infer that all were the work of the same people. Within only a few days, I have seen the first direct evidence in support of this conclusion.

JACOB MYERS was one of those scouts and hunters of Indians who operated on the waters of the Ohio, under Capt. SAMUEL BRADY, in the days of the revolution, and during the Indian wars that followed. Myers was scouting on Yellow Creek, near its mouth, in Jefferson county, O., a few miles below Wellsville, in the Spring of 1774. The celebrated Logan had a camp near there. Some of his party undertook to steal Myers' horse, and

were shot by him. Another Indian coming up was also shot, and Myers escaped across the Ohio to Baker's trading house, on the Virginia shore, nearly opposite the mouth of Yellow Creek. The story of Logan's party coming over the next day in search of Myers, their being killed except one squaw, the war which followed, and the pathetic speech of Logan, are well enough known.

Myers settled on the Ohio, a few miles below Yellow Creek, where he was living in 1850. One of his old neighbors has recently published in a local paper a statement of Myers, bearing upon rock inscriptions. He states that he saw from the south shore of the river, opposite the head of Brown's Island, which is only a few miles below Yellow Creek, an Indian at work on the flat rocks. He shot the Indian, and, getting to the island on a raft, he saw effigies of animals, among which was that of a deer, which the Indian had partly executed. It is not explained with what tool this work was being done. It is only at very low water that this group can be seen.

About a mile above Wellsville there is a very extensive group of snakes and animals etched into the flat rocks, near the level of low water. They are made in outline by a sharp-pointed tool, and a double row of dots sunk into the stone. A part of them are given in the Ohio Centennial Report. Such inscriptions are common in blocks of sandstone, and both flat and vertical faces of rocks on the upper Ohio. Their general resemblance to well-known picture writings of the red man is very close. It is thus nearly demonstrated that they are not the work of the Mound Builders, unless that race and the historical Indian are one.

CHAS. WHITTLESEY.

CLEVELAND, O., Dec. 4, 1879.

A CURIOUS PREHISTORIC RELIC.

To the Editor of the American Antiquarian:

I have in my collection a curiously wrought stone, found a few miles from the Susquehanna river, in Tioga county, N. Y. It is a dark-colored, quite hard sort of Argillaceous sandstone, of such as is the prevailing type in that locality.

Its general outline is that of an ellipse, it being $11\frac{3}{4}$ inches long and $4\frac{3}{4}$ inches wide at the widest part, which is about two inches left of the centre, whence it tapers gradually to either end, which is bluntly pointed. In thickness it varies from $\frac{1}{2}$ to $1\frac{1}{4}$ inches. The upper surface is quite uniformly level, except along one border, where it slopes off, making that edge thin and sharp; the other edge is very much thicker, and cut so as to be nearly at right angles with the upper surface. From the centre of the thicker edge of the stone, slightly curved lines

radiate over its upper surface. These lines are about $\frac{3}{4}$ of an inch apart where they commence (which is a slight distance from the edge), and, diverging as they proceed, are a little more than an inch apart where they terminate at the further border, except the two central ones, which are there separated by somewhat more than two inches.

The stone has been worn so that only ten lines are now distinctly visible, but I think there were originally twelve, as traces of a sixth one are found to the left of the centre, and the two ends seem to have been made to correspond. These lines are intersected at about right angles by alternating parallel ridges and grooves, which gradually increase in size and width from the concave space on the thicker to the thin edge of the stone. The ridges (there are twelve of them), together with the grooves, which are formed by the sides of the adjacent ridges, almost entirely cover the stone's upper surface. The under surface is very irregular, about one-half of its middle third being concave and covered with lines, etc., similar to those already described; but there is this difference, viz., here the ridges rise one above another, like seats in an amphitheatre.

What was the purpose for which this was designed, and to what race and period of time does it belong? May it not have been used in religious ceremonies?

DR. A. E. BLAIR.

FALMOUTH, Stafford County, Virginia.

MOUNDS IN KANSAS.

There are a good many mounds about here, and I heard Saturday of a farm about 12 miles from here where there was an old pottery kiln. Six miles off there is a mound which some parties opened some years ago. They came to a "stone wall," and gave it up. From the description it is about 20 by 40 feet. Another mound is located about a mile from town.

MANHATTAN, Kas., Dec. 15, 1879.

DR. C. P. BLACHLY.

Several mounds are north of the Wild Cat Creek. The largest is about three feet high and fifteen feet in diameter at base. Digging from the top the outside layer of black soil, mixed with flat stones, which must have been carried some distance, as there are no such stones in the immediate vicinity. Underneath this layer we found clay soil about two feet in depth. Under the clay and on the undisturbed surface soil we found bones, both burned and unburned, one skeleton, which seemed to be lying with head to the east, but with none of the bones whole except the finger and feet bones; infant bones; a large number of bone beads, mostly broken, about $1\frac{1}{2}$ inches in length. They were lying as they were strung, three rows, side by side, which we

could trace for some distance; the flint implements were one small, beautiful arrow-point, one spear head, one nicely worked piece, round at both ends, may have been used for knife blade; five unfinished, rough arrow-points; one rimmer; parts of two (at least) instruments or ornaments, five or six inches in length, carved and polished.

The second mound was about twenty feet from the first, was not more than a foot in height, composed of stones and black earth, and contained nothing but skeletons.

W. J. GRIFFIN.

ANOTHER NEST OF ARROW-FLINTS.

To the Editor of the American Antiquarian :

I here give an account, which may not prove to be wholly without interest to some of the readers of this journal, of an addition lately made to my collection, consisting of nearly one hundred flint arrow-heads. A son of Mr. Thomas Romeyn, while playing near a spring on his father's farm, in the town of Amsterdam, Montgomery county, N. Y., noticed some pieces of flint, or fragments of arrow-heads on the surface, and, on digging, he found nearly one hundred unnotched arrowheads. As soon as I heard of the find, I visited the spot with a friend, and secured what had been found, and, on further search, we found seventeen more perfect points. They lay about six inches below the surface, on a bed of ashes three inches thick, which rested on a hearth or fire-place of cobble-stones from the drift. The fire-place covered a space of about ten feet square, and, judging by the amount of ashes, and the presence of a spring near by, it would seem that it had been quite a resort for the Indians. The arrow-heads average about three inches in length, and are made from a dark blue and gray flint, which is abundant in this locality, and not one of them is notched for tying to the shaft, although otherwise perfect. Such finds of hoards of arrow-heads, are frequent in this vicinity. I know of four instances, in a radius of as many miles.

Yours Respectfully,

P. M. VAN EPPS.

GLENVILLE, N. Y., Aug. 25, 1880.

ANOTHER STONE IMAGE FOUND IN GRAVEL.

To the Editor of the American Antiquarian :

As regards the stone image found at Dayton, O., I will endeavor to give you the facts in a condensed form, as I learned them from the *Dayton Journal's* report, and confirmed by Dr. Pretzinger during several interviews. It may be proper to state, in the outset, that the Miami, in common with

other western streams, is bordered by two terraces, known in common parlance as first and second bottoms, commencing with the most recent. But geologists commence at the oldest, or first formed. Occasionally we find three terraces, but the highest of the series is usually limited in area. At Dayton, there are indications of one of these old terraces. Hence the city is situated on the second, whether we number from the river or the hills. On penetrating these second terraces we first pass through soil, variable in color and depth; under this we find yellow clay, holding boulders and gravel; under this we find the true drift, or gravel and sand. This reposes upon the original rock formation, which, in this region, is the "Cincinnati group." It was in the formation above described in which the cellar was dug, and from which the specimen is supposed to have been thrown.

The material taken from this excavation was permitted to remain some six months or more undisturbed, until, sometime last spring, when the little son of Mr. Ogier, while amusing himself upon the pile of clay, discovered the specimen and gave it to his father, who, after cleansing it, presented it to Mr. John F. Sinks, our former County Clerk, and now the nominee on the republican ticket for State Senator, through whose courtesy, and that of Dr. Pretzinger, I was permitted to make the drawings I sent you. The fact of its discovery on the top of the pile very naturally led Drs. Jewett and Pretzinger to conclude that it had been taken from the bottom of the excavation, and the thick coating of clay, by which the features were concealed, may be accepted as evidence of the character of the matrix in which it reposed. Dr. Pretzinger informs me, on the authority of the late venerable Thomas Morrison, one of the early pioneers of Dayton, that the locality was never artificially elevated, hence there was no "made earth."

The occasional discovery of "fire hearths" deeply buried under quarternary deposits, abundantly demonstrate that man occupied the Ohio valley at a very remote period, possibly during the pliocene. But the specimen under review exhibits a degree of advancement incompatible with what we regard as evidences of the purely hunter state. Measurements: From the lower point of the chin to the top of the head, six inches; diameter across zygomatic arches, or immediately below the eyes, $3\frac{1}{2}$ inches; across the lower part of the ear, including the nose, 3 inches. Weight, $4\frac{1}{2}$ pounds. The material is "Berea grit," the lowest member of the Waverly group.*

The characteristics of this object may be presented as follows: (1) The hair is represented in twelve separate divisions, concentrated in the rear. (2) The eyes (which are open) are full. (3)

*Prof. E. Orton.

The nose (before it was mutilated) was, apparently, sufficiently prominent. (4) The mouth is open, exposing well-formed front teeth. (5) The beard is represented by three pairs of obliquely divergent lines, and several perpendicular ones, in the space beneath the lower pair. The face, which is symmetrical, is rubbed down smooth. But the regularity of the striæ (which are perpendicular), is strongly suggestive of a process that required greater precision than could rest from a sand-stone polisher. Although the usual evidences of antiquity, sulphuret of iron and platina, are absent, yet it is not wholly without proof. The perforation in the ear was evidently the work of a chert drill. The circular striæ are plainly visible under the glass. If this specimen had been found in Mexico, we should have no difficulty in accounting for its mutilated condition, but, under the circumstances, I will not present any suggestions. About an inch of the right end one-fourth of the left side of the beard has been fractured off, also the right ear. There is no difference in the color of the defaced and uninjured parts. It presents the appearance of having been attached to a body, or pedestal of some sort.

Yours respectfully,

S. H. BINKLEY.

Alexandersville, O.

INDIAN VILLAGE SITES.

To the Editor of the American Antiquarian:

That part of New Jersey included within the limits of Monmouth County, has, perhaps, at one time been the habitation of a considerable Indian population. Bounded on the north by Raritan Bay, on the east by the ocean, it has, from its favorable position, afforded a generous food supply to the early inhabitants. Along the bay shore and upon the banks of the streams entering the ocean are scattered the broken valves of clam and oyster shells. Three of these streams, the Shark, Navesink and Manasquan, were, until quite recently, celebrated for their excellent oysters, but the inlets frequently closing and the shell fish denied their required supply of salt water, are fast decreasing. As numerous as are the shells along the coast and shore, there are not many places that can be said to have been permanent places of abode there. The "sand fields"* or village sites are much more numerous back in the country from six to twenty miles, where they are located along the streams, some of which are quite insignificant in size. Mortars, fragments of pottery, chippings, and burned stones, when associated, are good indications of a permanent residence, and of the 81 sand fields examined, scattered over an area of about 240 square miles, but ten were want-

*See *Antiquarian*, Vol. 1, No. 4, p. 253.

ing in any indications, while 36 exhibited all of the characteristics, including quantities of implements. Seven places were wanting in fragments of pottery only. Ten localities furnished 2200 implements, from 93 in one place to 620 in another. Occasionally the heaps of burned and broken pebbles are distinct enough to be counted, but generally they have been scattered over the surface by the plow. The light, sandy nature of the soil, causes it to be in banks or drifts, sometimes surrounding the "field" to a height of 15 feet, leaving the spot from which the sand was blown resembling the interior of a fortification. Around and in immediate vicinity, the prevailing timber is the Jersey Pine and Red Cedar, while upon the sand banks the Prickly Pear Cactus, *Opuntia melgaira*, and the Beach Plum, *Prunus maritima*, luxuriate. The fruit of both these plants is said to have been in great favor with our Indians. Amid the chippings, etc., may often be found brass and copper buttons of large size, and a fossil wood in small pieces, exhibiting under the microscope the cellular structure of the coniferæ. Most of these spots are upon high ground, though not the highest, and frequently surrounded by swamps and in proximity to fine springs of water.

But few of the towns or camping grounds mentioned in the early records of this part of the State, can be identified at this day. But one is known to me that can be placed with any degree of certainty, and that is upon the South River, a few miles from the mouth of the Raritan.

There are two large towns of Indians mentioned in Smith's History of N. J., one at the mouth of the last named river and the other a few miles south of it. It is now locally known as the "Old Fort," and a large number of relics have been gathered there.

CHAS. F. WOOLEY.

EDITORIAL NOTES.

OUR FRONTISPIECE.

We give as the frontispiece, a cut of the wild oats which form the substantial food for a large number of the Indian tribes, especially those who inhabited the regions surrounding the Great Lakes. The plant grew in great abundance in the marshes, and was gathered by the Indians, especially the squaws, who were accustomed to paddle among the tall stalks and beat the grain with their sticks into their canoes. We give the picture, which has been loaned to us by the *Scientific Farmer*, of Boston, for the purpose of calling out correspondence upon the native growths of the U. S., especially such as have been known to be used as food by the Aborigines.

NEW DISCOVERIES.

A **STONE PIPE** of curious construction, shaped like a rubber ball flattened by compression, its diameters being $2\frac{1}{4}$ and $1\frac{1}{2}$ inches. In a circular depression on one side is a bas-relief of a human face, high cheek bones, wide, straight mouth, flat nose, full lips, low, broad forehead, and the facial features expressive of craft and cunning. It is not the face of an Indian. On the opposite side is a hollow fitted to the thumb, for holding the pipe. Above the stem is a hole drilled through the upper part for a string. On the front side is an oblong sunken space in which the outline of a beaver is carved, the head toward the upper part. The main point of interest is a series of hieroglyphics, which begins just below the face, and extends around the under side of the bowl. First appears the figure 8, laid on its side, the two enclosed spaces filled with curious characters, and a crescent-shaped ornament protruding from the right end. Beneath this is a figure like a wheel with four spokes; another like a letter G, with three dots enclosed, and a branch of twigs shooting from the upper side.

The stone is fashioned from "Clinton Rock," which is as hard as flint, and has some specks of pyrites in it. The pipe was found by a farmer while digging in his garden four miles north of Wilmington, O., and is now in the possession of Dr. L. B. Welch, of Wilmington, O.

A **SLAB OF SANDSTONE CONTAINING HIEROGLYPHICS**.—During some extensive mound explorations near Zanesville, Ohio, under the direction of Dr. Everhart, of that city, a somewhat remarkable stone was found. It is a slab of sandstone, $12\frac{1}{2}$ inches long, 11 inches wide, 4 inches thick, and containing two lines of hieroglyphics across its face. The slab was found leaning against the head of a clay coffin, at the bottom of a large mound. The coffin was made of clay, moulded by hand, flat at the bottom, straight on the sides, but arched over the top, and contained a skeleton which is reported to have been of enormous dimensions. The description of the stone and of the hieroglyphics was read at the last session of the American Association, and the slab placed on exhibition. It has been pronounced "very puzzling." It contains among the hieroglyphics certain signs which are quite similar to some on the Davenport Tablets.

THE BUTTERFLY RELIC and other curious stones reported to have been found near Wilmington, O., and now in the possession of Dr. Welch, have received extensive notice from the *Cincinnati Commercial*, and wood cuts of the figures and hieroglyphics have been published. The characters have been already de-

scribed in the *ANTIQUARIAN*, and are quite remarkable, but it is doubtful if the "find" is genuine. A large number of bogus relics have been manufactured during the last year, and sold to collectors and relic hunters, some of them at good round prices. This operation has thrown light on the inscribed pebbles now in the possession of Wm. S. Vaux, and may also show why other remarkable relics are making their appearance so rapidly in various parts of the country. Archæologists are as likely to be deceived as other men, especially if they are expecting remarkable "finds."


CUMBERLAND and Westmoreland Counties, England, have been the scene of interesting archæological discoveries. Mr. R. S. Ferguson, A. M., gives a report of two or three curious cists containing skeletons, with the vessels for food, as usual, by their side, and with implements, pottery of a rude type and other cinerary remains. Another cist contained sundry implements of the bronze period.

A ROMAN CAMP situated on the sea coast, near Mayport, revealed a mutilated inscription of the twentieth Roman legion and the foundations of a Roman road. Coins of the reigns of Constantine and of the later Roman empires, with a large hoard of other coins, have been accidentally discovered by a laborer on the banks of the river, near Bristol.

The Malvern Hills have also revealed a number of ancient camps. In the interior of these camps were lines of hollows which were used as habitations. The camp was surrounded by a ditch and rampart. It is the opinion of Mr. C. H. Price that this camp was of Celtic origin, though there are remains of the British tribes among the debris.

ANCIENT ARMOR.—An interesting collection of ancient helmets and other armor was open to the inspection of visitors at the rooms of the Royal Archæological Institute, in London, during June. The articles exhibited were 250 in number and ranged from the tenth century before Christ down to the reign of the Stuarts of England.

There were several specimens of Etruscan and Grecian art, and still more of Roman and Oriental workmanship. Of these the most interesting were a brazen helmet of the time of the Roman occupation of Great Britain, a Persian helmet of the seventeenth century, four Etruscan helmets of bronze and another found in the Tigris, near the supposed passage of the "Ten Thousand." Three of the Etruscan helmets have the additional interest that they were bought at the sale of the effects of the poet Rogers, and the fourth, of bronze, was found in the bed of the Ilyssus, at Athens.



THE IDOL MONTEZUMA.—Montezuma is still the great Divinity of the Pueblos. His image is preserved and worshipped by the surviving tribes. As late as 1857, Mr. W. H. Davis, then United States Attorney for New Mexico, was shown this idol, which he describes as follows:

"It resembles nothing upon the earth, in the heavens above, or in the sea beneath. It is a cylinder shape, nine inches high and nine in diameter, and made of tanned skin. The upper end is closed with skin and the lower end left open. One-half of the cylinder is painted green and the other half red. Upon the green side is fashioned the rude resemblance of a man's face. Two long apertures in the skin, in the shape of right-angled triangles, with the bases inward, are the eyes. There is no nose. A circular piece of leather about two inches below the eyes represents the mouth. Two similar pieces, one on each side, opposite the outer corners of the eyes, are intended for the ears. A small tuft of leather and feathers crowns the top.

"The three Indians present," he continued, "looked upon it with the greatest veneration. They knelt around it in the most devout manner, and went through the form of prayer, while one of their number sprinkled upon it a white powder."

GENERAL REVIEW.

PROCEEDINGS OF SOCIETIES.

The British Association for the Advancement of Science met at Swansro, August 25. Dr. A. C. Ramsay, Director General of the Geological Survey for the United Kingdom, presided. Archæological excursions were conducted to several interesting localities in the vicinity.

The French Association met at Rheims, August 12 to 19. An exposition of Archæological relics was made in connection with the sessions, and an excursion was made to the famous Grottoes, in Belgium. Several papers by American authors were read.

The American Association met at Boston, August 29. Hon. L. H. Morgan, the author of "Ancient Society," "Consanguinity of Races" and other works on American Ethnology, was the President of the Association. Mayor J. W. Powell, Chairman of sub-section E; that of Anthropology. The following are the titles of papers on Anthropology and Ethnology entered at the meeting of the *American Association*:

Scheme of the Tenth Census for obtaining statistics of untaxed Indians.—Garriek Mallery.

Exhibition of stone implements from the river drift of New Jersey.—C. C. Abbott.

Indications of a pre-Indian occupancy of the Atlantic coast of North America, subsequent to that of palæolithic man.—C. C. Abbott.

The Dacotah tribes.—H. B. Carrington.

Alabaster quarries, flint mines, and other antiquities recently found in Mammoth, Wyandot and Luray caverns.—H. C. Hovey.

Textile fabrics of the ancient inhabitants of the Mississippi valley.—J. G. Henderson.

Engraved tablet from a mound in Ohio.—W. J. Knowlton.

Japanese caves.—E. S. Morse.

Ancient agricultural implements of stone.—Wm. McAdams.

The Indian question.—D. A. Lyle.

The topographical survey of the works at Aztalan, Wis.—S. D. Peet.

The military system of the emblematic mound-builders.—S. D. Peet.

The Academy of Science, San Francisco, Cal., is doing efficient work. Among the recent donations to the museum were some specimens of wild rice from Mr. Simpson, who had endeavored to make it grow here in this State, but with no success. Mr. Redding stated that, although Indian rice was originally found in the lakes of Wisconsin, and of the territory of the Northwest, it had been made to grow as far south in the Southern States as Arkansas, but that all efforts to make it grow in the California lakes had yet been unsuccessful. This was to be regretted, as one very valuable result of its growth was its irresistible attraction to all varieties of edible aquatic birds, which followed in great quantities its growth to localities where they had never before been known.

Mr. B. B. Redding presented, on behalf of parties residing near the Mohave desert, specimens of a plant growing wild in that locality, used by the Indians for making a strong description of cordage, the seeds of which they prepare for food, using the result as a species of pinole. The gentleman forwarding it to the Academy thought it could be grown in our State as a valuable fiber, capable of establishing a new industry for our people.

Dr. Kellogg thought it resembled a species of the *Salvia Columbaria*. He said it had a beautiful purplish blue blossom, and yields a large quantity of seeds, which may be successfully used as eye-stones, for, when inserted under the eye-lid, the moisture of the eye causes them to throw out a pleasant and delicate mucilage, which flows toward the corner of the eye, taking with it any foreign substance which it is desired to remove. Seeds put in water increase to five times their bulk. Similar seeds are found in Aztec graves, showing that in their day the climate of this locality produced similar plants, whose variable qualities were known and availed of as food.

Report of the Committee of the Rhode Island Historical Society on the Old Indian Steatite Pottery. Your committee, after different meetings, visits and examinations of the quarry in Johnston, and consultations with scholars and business men, having duly weighed all evidence and opinions, respectfully report the following facts and recommendations:

1. This ledge of soapstone is located in Johnston, R. I., about one-eighth of a mile west of the Greek Tavern, north of the Hartford turnpike, on the lands of Mr. Horatio N. Angell.

2. The quarry was first opened by Mr. Angell in February, 1878, from which time it has attracted large and increasing attention, both within our State and far beyond it.

3. The stratum of steatite containing the pottery is about twenty-five feet in thickness, having a dip to the east, and has now been cleared of drift and the debris of Indian art for the space of about a hundred feet. It lies between walls of slate stone.

4. In this stratum are several excavations made by the aborigines in securing stone pots, pans, dishes and pipes. One excavation, however, surpasses all others in magnitude and the marks of Indian workmanship.

5. The largest excavation measures about ten feet in length, six feet in width and now five feet in depth; but from the top of the ledge, as left by the glaciers, the excavation must have been carried down about fifteen feet or more, inasmuch as when it was opened there lay across its top a fallen slab of slate stone that once stood full ten feet high above it, forming its eastern wall.

6. The excavation was found partly filled with dirt, debris of Indian art, some whole stone pots, some partly finished pots, some only blocked out, numerous stone hammers, the horns of a deer, the bones of an animal, and a few shells. Many of these valuable relics have passed into private hands and are highly prized.

7. The sides and bottom of this excavation contain about sixty distinct pits and knobs of places where pots and dishes were cut from the rock, while all parts bear marks and scars made by the stone implements of the swarthy quarrymen.

8. From the excavations and their surroundings have been removed about three hundred horse-cart loads of the stone chips left by the Indian workmen, yet some have been preserved by Prof. J. W. P. Jenks, in the Museum of Brown University.

9. Sections of the quarry revealing Indian workmanship and specimens of the workmen's chips have been secured by the Smithsonian Institution, the Permanent Exhibition at Philadelphia, the Museum of Brown University, the Peabody Museum at Cambridge, the Boston Society of Natural History, and the Franklin Society of Providence.

10. Some of the stone pots found in the excavations, amid the debris, are now a part of the very valuable private Indian cabinet of Mr. Charles Gorton, of this city.

11. Naturalists, ethnologists, and students of history are anxious to secure views and specimens from this remarkable quarry. An able report of it was made by Prof. Putnam, curator of the Peabody Museum.

12. It is a historical fact stated by Hutchinson (p. 458), and quoted by Potter in his History of Narragansett (p. 8), that the Narragansetts were distinguished for mechanical arts and trade, and furnished earthen vessels and pots for cooking to the adjacent native tribes.

13. It is confidently computed by men of judgment in such premises that this quarry must have been worked by the aborigines for centuries before whites visited this coast, and that, first and last, the ledge must have yielded thousands of pieces of stone ware.

14. So far as now known, this ledge is the only pottery of the kind in New England, and must have been exceedingly valuable and famed among all the tribes of the country.

15. All who have visited the pottery have instinctively felt that somehow it ought to be preserved, and those who have studied it most are the most emphatic in this opinion.

16. The conviction of all minds is that it ought to be secured and held as a revelation and monument of Indian life and historical treasure of Rhode Island.

The Natural History Society of Cincinnati, O., have been publishing the result of the recent explorations at Madisonville, O., with cuts and diagrams. A third paper appears in their last report, prepared by Charles F. Low, of Cincinnati.

MUSEUMS.

Mrs. Joseph Harrison, Jr., of Philadelphia, has offered to present to the United States the famous Catlin collection of Indian portraits and curiosities, which possesses a unique historic interest, many of the tribes represented in it being now extinct. The collection was bought in Brussels, Belgium, by her husband, some years ago, and offering it to the nation his widow is carrying out his own intention. It is now in Washington, and has been accepted by the Smithsonian Institute.

One of the most remarkable objects of antiquity obtained from Asia since the Assyrian sculptures is the Hamathite inscription which has just been placed in the Oriental Gallery of the British Museum. It is composed of dark basalt, about four feet high, and probably formed part of a doorway. On it are five horizontal lines of an unknown character, undoubtedly resembling in some peculiarities the Egyptian, but so distantly connected with this now well-known language that as yet no approach has been made toward its decipherment. The inscription is manifestly *boustrophedon*, and probably reads from top to bottom. The characters are raised by sinking the field of the inscribed lines about three-eighths of an inch. They consist of animals' heads, human hands, feet, birds, a figure resembling an O, trees, crooks, crocodiles, yokes, thrones, or carved chairs, and short lines, or a line between two squares, these latter probably being numbers. From certain groups recurring with variants, there is probably some grammatical system underlying the arrangement of characters, which, nevertheless, partake strongly of the pictorial and ideographic element.

The custodian of the Berlin Agricultural Museum has lately discovered among the carbonized seeds exhumed by Dr. Schliemann, the vetch field-beans and peas, and a peculiar kind of wheat. The wheat is very hard, fine grained, sharp and very flat on the furrowed side, and differs from any wheat hitherto known, and is especially distinct from the thick bellied grains of the Egyptian mummies and of the Swiss lake villages. This is the first time that peas have been known to belong to ancient Greeks.

Prof. C. W. Claypole, of Antioch College, Ohio, has been examining the Schliemann collection at South Kensington Museum, and gives it as his opinion that some of the hour-glass shaped pebbles hitherto supposed to be idols, and labelled in the museum as "Minerva Ornaments," are nothing more nor less than net sinkers, identical in form and appearance with those found on the shores of our lakes and rivers.

LINGUISTIC NOTES.

English Folk-Lore Society. At one of its last meetings a committee was appointed to consider and report upon the best means of collecting, arranging, proving and comparing the proverbs and proverbial sayings of all countries, ancient and modern.

The Sunderland Library, collected by the third Earl of Sunderland during the reigns of Queen Anne and George I, is to be sold in London this fall. This valuable collection of books (and a few prints) consists of some 30,000 volumes, and is celebrated for its magnificent array of first and early editions of the Greek and Latin classics; for its many extremely rare works relating to America; for a series of Spanish and Portuguese chronicles, and other treasures of history.

A dictionary of the *German dialects* spoken in *Switzerland* has been in preparation for the last twenty years, Professor Staub in Zürich, being in charge. The contributions have now all come in, the material is digested and arranged, and the publication in numbers will begin this year. From the short extracts printed a few years ago, we may feel convinced that the linguistic material gathered here is exceedingly voluminous and instructive, and will leave far behind all that has been attempted on this field by the learned Stalder, by Dr. Tobler, and others.

The Basque language, which on account of its peculiar and isolated position is more and more attracting the attention of linguists and anthropologists, has found another learned expounder in the "*Comparative Grammar of the Basque Dialects*," by W. J. Van Eys, Paris, Massoneuve, 1879, 535 pages. The first publication of Van Eys on this subject, written in French, like the volume above, dates from 1865.

The vocabulary of the *Nagrande Language*, Nicaragua, published by Hippolyte de Charencey, in the *Revue de Linguistique*, Vol. XII, No. 3 (July, 1879), from manuscripts left by Abbé Brasseur, is of singular importance for the study of Central American languages. The language is spoken northwest of Lake Managua. Although it does not contain over 250 of the more common terms, it gives us an insight into a stock of languages of which almost nothing is known beyond the fragment of a vocabulary published by E. Squier (Nicaragua, New York, 1852, II, page 320-333), and another series of words contained in Transactions of American Ethnological Society, III, part 2, pages 101, 106, 110, following another mode of transcription than the Bradshaw vocabulary, which is the most complete of all. Syllables and words with few exceptions end in vowels and diphthongs. The vowels are frequently nasalized or pronounced long. The sounds *f*, and *th* do not occur, but *r* is found in a few instances: Purumih—*boiling water*; nagayariyu—*to kill*. No monosyllabic term occurs with the list; the majority of words are made up of two syllables, and the above word, *to kill*, is one of the longest. The numerals are as follows: 1, imba; 2, apu; 3, asu; 4, ajeu (Spanish, *j*); 5, huseu; 6, majuó; 10, gly'a. Of other terms, we mention: *hair*, tásu; *head*, éhec; *blood*, edí; *tooth*, sínu; *nose*, dáheca, dáca; *mouth*, danwa, daswa; *neck*, apa; *arm*, pahpa; *heart*, buñ; *foot*, nahcua; *stone*, slnu; *water*, hia, iya; *land*, earth, umba; *fire*, agu; *white*, mixa, tichu; *red*, maná; *green*, maxa.

A. S. G.

GLEANINGS FROM MAGAZINES.

THE MASCOUTINES OR FIRE NATION.

On some of the early maps of the West we find the name of the Fire Nation stretched along the south end of Lake Michigan. The French maps have also the name of the Mascoutines in nearly the same locality. It has been a matter of wonder what the Fire Nation was; and even the name Mascoutine as the name of any particular tribe has not been understood. Mr. H. W. Beckwith, in his *Historic Notes of the Northwest*, has given a very reasonable explanation. After speaking of the vast extent of prairie and the prevalence of prairie fires in this region, he says: No wonder that the Indians, noted for their naming a place or thing from some of its distinctive peculiarities, should have called the prairie "Maskotia," or the place of fire. In the ancient Algonquin tongue, as well as its more modern form, the Ojibway, the word scoutay means fire; and in the Illinois and Pottawattomie, kindred tongues, it is scotte and scoutay, respectively. It is also eminently characteristic that the Indians who lived or hunted exclusively upon the prairies were known among their red brethren as "Maskoutes," rendered by the French writers Maskoutines, or people of the fire or prairie country. We may suppose, then, that both the terms Fire Nation and Maskoutines were not applied to that particular tribe which dwelt here at the time of the advent of the whites on the prairies or "firelands" of this vicinity.

HISTORY AND ANTIQUITIES OF ARIZONA.

From the *Scientific and Mining Gazette*, San Francisco, Cal.

The early history of Arizona has still to be written, but it is in most respects identical with that of southern California, New Mexico and northern Mexico. That the original inhabitants belonged to the same civilization as that under which Mexico rose to so comparatively high a grade long before Cortes landed on its shores, is usually conceded, but whether the bulk of the people removed southward toward the consolidated empire of the Aztecs before the conquest of Mexico by the Spaniards; whether they remained and were swept away by the Spanish invasion from the south; or whether the Apache from the north drove them out of the open lands into the recesses of the canyons, and finally extinguished all but the few pueblos still remaining, is not certainly proven.

Probably the truth lies between the three alternatives, and all the causes may have contributed to the depopulation of the country and to the ruin of the extensive cities, dwellings, canals, etc., which strew the plains and line the sides of the canyons. To the student of history nothing in Arizona equals in interest these architectural remains. Now that the railway is finished, many of these are comparatively accessible—the famous Casa Grande being only a few miles from the station of that name, while numerous other ruins exist in the districts around Florence and Phoenix.

A few miles from Phoenix are the ruins of two or three towns and the remains of two stupendous canals, one of which is 40 feet wide, and in former times drew its supply of water from the river near the mountains, 20 miles distant. In this neighborhood are also the ruins of a building occupying a parallelogram of 26 feet by 130, with walls still over 10 feet high. At from 12 to 14 miles of Phoenix, at La Tempe, are remains of what must have been a populous city, and also another system of canals and reservoirs. Ruins of a similar description to those of Casa Grande have been found in the Rio Verde valley, on Pueblo creek and at Aztec pass.

Casa Grande, discovered by Father Kino, 300 years ago, is situated near the Gila, a few miles from Florence. The main building is about 55 feet square, and four stories in height, with traces of two more stories. Each story contains five rooms, two 35x10 feet, the other three 24x9 feet, and all of them 9 feet in height. The openings which once served for doors are three feet and one-half high, two and one-half feet wide at the base, and two feet wide at top. The whole of the interior is neatly plastered, the plaster perfect as when first put on. This building is surrounded by a wall which, when perfect, was perhaps fifteen feet high and six feet thick at the base, and within this are several smaller apartments, besides a sort of watch-tower at the southeast and southwest corners.

In the Gila valley, 120 miles from Tucson, are the famous Piedras Pintadas. A heap of rocks, about 50 feet high, is covered with rude figures, geometric, comic, anatomical. Here are squares, circles, crosses, triangles, snakes, toads and vermin; men without heads and dogs without tails. The sketches show considerable similarity to those of the Aztec Calendar Stone in Mexico. It is a tradition with the Indians that those stones were put there in the time of Montezuma, to record treaties between different tribes.

The towns of the Moqui and Zuni, the former in the north of Arizona, and the latter just over the border in New Mexico, are in so many respects similar to the ruins scattered on plain and canyon, that they evidently belong to the same civilization; but whether the Indians are the remains of a separate tribe, or the remnants of many tribes, is one of the problems of the history of America.

The "Indians" of Arizona evidently belong to several very different stocks. The wild Apache, formidable for his stealthiness and treachery more than from his numbers; the peaceful, not easily provoked, yet brave Pimo; the industrious Papago; and the town-dwelling, family-loving, orderly, clean and self-contained Moqui, have little in common. The distance which separates the rude Apache from the Moqui, with his old and respectable civilization, is as great as that between the rude tribes of Siberia and the cultivated Japanese.

The ruins in the canyons, on almost inaccessible terraces, are believed, by Major Powell, to be more recent than those of the plains. He believes the people took refuge there to escape the Spanish incursions.

THE PRIMITIVE RELIGION OF EARTH.*

The religion of mankind at the dawn of history was essentially monotheistic. The worship of natural forces of the sun and stars, and of beasts and fetiches, appears very early, but the monotheistic conviction grows more intense the further we go back in the records of thought.

The earliest of the Vedic hymns, the religion of Zoroaster and that of Egypt, show traces of this monotheistic faith. If the Homeric religion does not, we must ascribe it to the fact that Greek life belongs to a later Payan civilization. The patriarchs, the prophets and poets of India were all monotheistic. They were so not merely because they received revelations from God, nor because they borrowed the wisdom of Chaldea, of Egypt and Persia, but because theirs was the primitive religion.

The development of Judaism was but the development of this primitive faith, which by divine process was preserved in its purity and simplicity. While the Babylonian stories are overlaid with Polytheistic superstitions, with impossible cosmogories and with puerilities, the Abrahamic faith was and still is a most reasonable conviction.

In Canaan the Patriarchal faith presents a perpetual miracle of a rude people preserving the very highest forms of human thought amid the corrupting influences of a higher civilization. The Phœnician nations were more advanced in material development. They were the parents of letters, commerce and civilization, but Abraham did not go to them for his religion. He, the rescuer of the primitive faith from the idolatries of Assyria, betakes himself to a wandering life in the desert, but amid all his changes he preserved that faith intact. Renan says that the desert is monotheistic. The tropical luxuriance of India bred a polytheistic nature worship, but the sea of sand engendered an inevitable monotheism. The desert never changes. There is an intense conservatism in it. Under its unclouded sky and in its pure air nothing decays. Languages, institutions, manners, and even religion, are preserved there.

The primitive monotheistic faith did not originate there, but it was preserved even as the manners of the Bedouin have since been preserved.

This monotheism may have been, indeed, was, narrow, intolerant, exclusive.

Polytheism developed art and architecture. The science of astronomy began with polytheistic conceptions of the universe. The Romans rose to their world-wide dominion and their climax of civilization by a polytheistic liberality of spirit. But the moral element was always connected with

* Universalist Quarterly for Oct. 1879

monotheism. God was a God of the covenant. Nature worship had no morality and no personality. It was the personification of brute forces. Personal purity belonged alone to the monotheistic faith.

The rite of circumcision was a significant feature in the Abrahamic religion. Every form of heathen worship lent encouragement to the vilest unchastity. The deification of the sexual passion was common. Prostitution was often connected with heathen temple worship. The Abrahamic religion preserved primitive personal purity from the deteriorating effects of heathen worship.

The sacrificial element was also another part of the primitive universal religion which the Abrahamic faith preserved. Human sacrifices among the heathen was another perversion of this primitive sacrificial faith. These same elements of sacrifice found their embodiment afterward in Christ, who was the true interpreter of the divinely preserved religion for all mankind; but it is evident that it did not originate with Christ, but was in the very nature of that worship which is yet destined to be universal.

THE HISTORICAL CONTROVERSY.

The New England Journal of Education, Sept. 23, contains a discussion of the limits of the Louisiana purchase, in which the author takes issue with Prof. John J. Anderson, of New York, the latter holding that the purchase was limited on the west by the Rocky Mountains. By the treaty of Paris, in 1763, France ceded to Great Britain all of her possessions east of the Mississippi, and to Spain the French province of Louisiana. By this means the territory was left to these two foreign powers to divide, all east of the Mississippi falling to Great Britain and the balance to Spain, the latter extending, the writer maintains, to the Pacific coast. We quote the following:

"It is especially important here to note that by the French cession of Louisiana to Spain, in 1763, the Spanish dominions west of the Mississippi were brought into solidarity. The whole domain from the Mississippi west, was after the treaty of 1763, indubitably Spanish territory. The claim of Spain to the country west of the Rocky Mountains, based as it was upon discovery and exploration, could not be doubted. As early as 1541 Cabrillo had traced the Pacific coast northward to within a few miles of the upper limits of Oregon; and the great exploring expedition of Coronado, who, in the same year, carried the Spanish banners from the Gulf of California, in a northeasterly direction, to the head-waters of the Rio del Norte, and thence far into the great interior plains of the West, had given to Charles V. as clear a title as discovery and exploration could give to the vast central plateau west of the Rocky Mountains. In fact, the trails of Spanish exploring parties, working their way westward from the Mississippi, and the paths of other adventurers, urging their course inland from the Spanish posts on the Pacific, had actually crossed each other, in the longitude of Utah, before the middle of the sixteenth century. It thus came to pass that after the extinction of the French claims by the treaty of 1763, Spain, from her two capitals of New Orleans and Mexico, rightfully ruled *all the territory between the Mississippi and the Pacific*. But it remained for after-times to determine the boundary between her two great provinces."

At the close of the Revolution, the territory was readjusted, and Florida and Louisiana were ceded back to Spain. Subsequently, in 1800, the king of Spain, in the secret session held at Ildefonso, made a treaty with Napoleon, by which he ceded to France the province of Louisiana, "*with the same extent that it now has in the hands of Spain, and that it had when France possessed it, and such as it should be after the treaties subsequently entered into between Spain and other States.*"

In 1803, Napoleon ceded this same territory in the celebrated "Louisiana purchase," to the United States, but in transferring used the language of the secret session, given above, and so left the bounds to the "treaties subsequently entered into by Spain and other states."

From 1803 to 1819, the boundary was undecided, but on Feb. 22, 1819, after the War of the Seminoles, Spain relinquished her claim to Florida, the American government relinquished all claim to Texas, and the boundary line of the province between Louisiana and the Spanish possessions was defined. This was as follows:

"The boundary line between the two countries, west of the Mississippi, shall begin on the Gulf of Mexico, at the mouth of the river Sabine, in the sea, continuing north, along the western bank of that river, to the 32d degree of latitude; thence by a line due north, to the degree of latitude where it strikes the Rio Roxo of Natchitoches, or Red River; then following the course of the Rio Roxo westward, to the degree of longitude 100° west from London and 23° from Wasnington; then crossing the said Red River, and running thence by a line due north, to the river Arkansas; thence following the course of the southern bank of the Arkansas, to its source, in latitude 42° north; and thence by that parallel of latitude to the South Sea [the Pacific]; the whole as being laid down in Mellish's map of the United States, published at Philadelphia, improved to the first of January, 1818. But if the source of the Arkansas River shall be found to fall north or south of latitude 42° then the line shall run from the said source due north or south, as the case may be, till it meets the said parallel of latitude 42°, and thence along the said parallel to the South Sea."

Thus, it appears from this treaty that the real limits of Louisiana were on the Pacific coast, and the claim to the region west of the Rocky Mountains, which Great Britain set up in 1840, was manifestly ill founded.

THE AVESTA AND THE STORM MYTH.

The *New Englander* for September contains an article on "The Avesta and the Storm Myth," being a review of James Darmisteter's work on the origin and history of Ormuzd and Ahriman. It appears that the attempt has been made by this writer to trace the Persian religion, including the dualistic conception of good and evil, and all the mythical and ethnical teachings of the ancient works of the Avesta, to a mere system of naturalism. In fact, the naturalistic method is carried to such an extent that the very existence of Zoroaster is denied, and the whole story of that religious teacher, and the various tenets of his system are traced to the storm myths of the Indo-Iranian period.

Ormuzd and Ahriman, the good and bad principles, are traced, one to the supreme Asura, the Aryan god of the infinite and luminous heaven, the other to the dark demon of the clouds, which, traced in black from the bright outline of his antitype, became also an Iranian divinity. Thus the opinion of Kuhn, in his "Descent of Fire," and of Max Müller in his first studies in "Comparative Mythology," have had a following which bids fair to carry everything of a traditional, and we might say religious nature, back to a strange materialism for their origin. The attempt is made to transform Zoroaster into the luminous heaven, and to show the identity between the "first man" of all Aryan legends and the "Gods of Light" above. Zoroaster is announced as the first man of "God," the first priest; therefore, like Yima, Manu, Buddha, he is the "God of Light." The review says: "We admit that if we tear the thin historical drapery in which such figures as Yima, Manu and Brahma are wrapped, we confront unmistakable myths, but this is far from being the case with the Mazdean prophet. The higher we ascend the course of Iranian history, the more firmly his features hold together, until in the oldest hymns, the sober flesh and sinew personality stands out." He says also: "An older spiritual drama, borrowed from the inner life, may have been clothed and voiced by the several personages. But the drift of the early Mazdean faith is overwhelmingly moral. The divinity of this most moral of the Aryan religions, so far from being a creation of naturalism, was himself the source of the Mazdean law. If Ahura was evolved from the God-Heaven, from what was the religion itself evolved? The priority of the cosmic sense, to the moral, is the position of a certain class of thinkers. "But to assume that cosmic notions have preceded and prompted all of the mental achievements of the race, and to adopt the ancient sensualistic saying, that 'nothing is in the understanding that was not previously in the stars,' is an hypothesis which must sink by its own weight. Especially in the Persian faith: 'Every utterance of the Avesta points to a deeper, more sweeping change, than the rosy passage from a cosmic stage into a moral one, and the symbolist is powerless to account for it."

THE EXPLORATIONS IN MEXICO.

The North American Review. The three last numbers of this magazine contain articles on the expedition to Mexico. The first is by the editor, Mr. A. T. Rice, being a brief review of the subject; the other two by M. Desiré Charnay. It may be said that no more interesting field of research can be found than in that very region where the first conquest of America began. Although it has been frequently visited by antiquarians and travelers, yet at each successive visit it has not failed to furnish some new and valuable discovery. One can hardly realize the surprise which was excited throughout all Europe when the marvelous tales of the untold wealth and strange civilization began to be told; but that surprise has not yet ceased. The Spanish conquerors left a large proportion of the most interesting ruins and monuments undiscovered, and so the various expeditions sent there have each brought to light new things. It was as late as 1750 that a party of Spaniards stumbled upon the so-called Casas de Piedros, now known as Palenque. In 1786 the first expedition was sent out by the king of Spain, under Captain Del Rio. Another was sent by Charles IX., under Dupaix, which lasted three seasons, until 1805-6. Later, Lord Kingsborough published his celebrated work, which, however, gave no new facts, being mainly a rehash of Dupaix. Then followed Waldeck's expedition, which lasted over two years. But the most important of all was the work of the American travelers, Stephens and Catherwood. Over forty ruined cities were visited and described by these indefatigable men, and their description still continues the most charming and graphic of any published. Since then Mr. E. G. Squier has visited the same region, and more recently various gentlemen, among them Mr. Stephen Salisbury. Mr. Scherzer, Rosini and others, have described the same regions. The natural museum of Mexico is also sending out quarterly reports in the Spanish language descriptive of many of the antiquities of this and the regions around the city of Mexico.

The work of M. Desiré Charnay thus far has been to give only a description of the various inscribed stones hitherto discovered, and the latest interpretations which the best scholars have put upon them, and nothing particularly new has been developed. The readers of THE ANTIQUARIAN will recognize in the first article the same facts which have been published in that journal in regard to the interpretation of the Mexican Calendar stone, and the other facts are also familiar; yet it is to be hoped that as the expedition continues, much new and valuable information may be obtained.

BOOK REVIEWS.

A FORBIDDEN LAND; VOYAGES TO THE COREA, WITH AN ACCOUNT OF ITS GEOGRAPHY, HISTORY, PRODUCTIONS, AND COMMERCIAL CAPABILITIES, ETC., ETC. By Ernest Oppert. With two Charts and twenty-one Illustrations. New York, G. Putnam's Sons, 1890.

We have here a work finely gotten up, rather interestingly written in poor English, on a fresh subject. The author seems to have resided in the far east, and to be well posted in Chinese history and literature. Without being directly engaged in commerce he undertook to secure the opening of the long closed Corea to the outside world. The earlier chapters of the book relate to the physical aspects of the country, its inhabitants and their history, while the last part of the book is given up to an account of three voyages to the land by Herr Oppert.

In the most easterly part of the Asiatic continent, Corea is separated from China by the Great Galon river, and the formidable whiteheaded mountain range. It was the scene of sanguinary and murderous feuds between its various races and tribes for several thousands of years, as we learn by Chinese history. It has been generally supposed that Corea was to some extent subject to China. It is certain that in olden time the Chinese emperors did claim and attempt to exercise suzerain powers over the Korean rulers. To establish that right, they many times invaded the land, but in 1397, a noted leader succeeded in uniting all the provinces, or petty kingdoms, under his authority, and drove out the invaders; since then, the Coreans have been independent of China, and carefully isolated from the

rest of the world. When shipwrecked seamen have been thrown on that coast, they have been frequently massacred. Such was the fate of the crew of the American schooner, "Gen. Sherman," in 1866. The author claims to have good authority for declaring that these deeds, and the policy which dictates them are not of the people, but from the tyrannical government of which the great mass of the people are heartily tired.

In regard to the inhabitants of the land the author says: "It may be taken for granted after this, that the opinion generally prevailing hitherto, according to which the Koreans have been set down as a branch from the Chinese people, must be considered as altogether mistaken and erroneous."

There seem distinct traces of two races among them at present, and their habits and customs show them not to be of Chinese extraction, for a people so obstinate and tenacious of custom as the latter, would not have so completely changed, and that too in a land bordering China, as the Koreans have done if they are descendants of the Chinese. The best information on the subject leads scholars to believe that the mass of the people are from Mongolia, from which country they fought their way through China into the Korean peninsula, while that portion of the population who show the Caucasian type are probably from the plains of western Asia, "whence they have been driven by feuds and revolutions."

The government is an absolute monarchy; the will of the king is law. But they have a singular officer termed the "declared or official favorite," "a position usually filled by some male member of a noble family, whose special duty consists in watching and controlling the royal actions. Formerly, this office possessed some significance; at present, it possesses none whatever." There are eight provinces, under the rule of governors; each province is divided into circuits, and these again into districts. All the officers are appointed for two years only, and then changed to some other post. This policy keeps the officers loyal to the king, and prevents any intimacy or attachments between the officials and the people. The policy leads them to be terribly unjust and extortionate, which does not seem to disturb the king if he secures his revenue. Two hundred years ago they had an elaborate system of secret police, who kept a watch over all officials. It seems to have worked well for a while, but like everything of the kind elsewhere, it became corrupt and useless for the purpose for which it was intended.

The population of the country is believed to amount to the enormous number of fifteen or sixteen million people. They are described as bright, peaceable, industrious, kind hearted, but sadly debased in morals. Many of the upper classes are real gentlemen in intelligence and manners. In astuteness and patient diplomacy, the officials resemble their neighbors, the Chinese. While China has no authority over Korea whatever, it has long served the Korean rulers to delay and defeat all negotiations on the part of foreigners, to declare that important questions must be referred to the emperor of China for decision. But it is now well understood that it is only an expedient to check their purposes. The people ardently desire intercourse with the outside world, but as yet have not had courage to assert their individuality enough to demand it.

In religion the people are Buddhists; but in practice they hardly rise above savages, being far below the Chinese and Japanese. Their priesthood is the lowest of their "dispersed castes." The author thinks they must be the most depraved class of religious teachers in the world. In the latter part of the 18th century, several Koreans attached to the embassy at Peking were converted to the Roman Catholic creed; and Christianity, or Papal Christianity was introduced into the country, and spread fast. "Among all Asiatic nationalities there is none more inclined to be converted to Christianity than the Korean; he becomes a Christian from conviction, not from any mercenary motives." Our author praises the work of the Roman Catholic missionaries, and then makes the astounding statement, which must be news to many careful observers that "It is an undeniable fact, and everyone conversant with the matter, especially so far as China is concerned, must subscribe to it, that whatever success has been obtained is, for the greater part, due to the work of Roman missionaries." He confesses that this is largely due to "the outward splendor of the Roman

Catholicities." In a foot note, he makes a partial apology for his statement on the subject, and then emphasizes it by showing his ignorance still further. The whole, being contained in a book offered to a public which is mostly Protestant, is well nigh an insult to their intelligence. For the facts are believed to be notoriously on the other side. He shows plainly enough that the recent tyrannical policy of exclusion of foreigners in Corea was from the same cause as in China and Japan years ago; the Roman priest-hood intrigued for power, meddled with government, and some were beheaded and others bundled out of the land. And as showing the boasted wisdom of those religious teachers the author narrates an adventure which the Roman priest whom he praises the highest for learning, wisdom, and discretion proposed, and in which the author joined, which made a third voyage to "the forbidden land." The problem was, for the priest to get permission to return to teach his religion in Corea; and for Mr. Oppert to get the country thrown open to general commerce. The priest informed him that the present ruler of the country was a very superstitious man, and possessed certain relics which he sacredly prized and protected; and which he thought exercised a control over his destiny. These were deposited in a certain secluded place, which was well known to some of the Corean converts with the priest. He proposed that they land on the coast, march with a sufficient force as secretly as possible to the place, secure the relics and then make the ruler accede to their terms, as he thought he would certainly do. The Quixotic attempt was made and ignominiously failed, and only resulted in greatly exasperating the ruler.

The book contains much interesting material, but is not well digested. It is probably the best authority extant on Corea; and as such, will repay any one desiring information on the subject of which it treats. Mr. Oppert is probably a Frenchman, and wrote this work in English; perhaps this fact may account for the following remarkable sentence found on page 73. "He was overtaken by death, and his warlike career was put a sudden and unexpected end to." No one should ever laugh at an American's French after that specimen of bad English. We marvel that the Putnams should have allowed such a phrase to pass their press. W. S. H.

MEMORIAL RECORD OF THE FATHERS OF WISCONSIN, containing Sketches of the Lives of the Members of the Constitutional Conventions of 1846 and 1848. Published by H. A. Tenney and David Atwood, Madison, Wis., 1890.

The State of Wisconsin was the fifth and last one into which the Great North-West Territory was divided. This territory, established in 1797, embraced the whole country east of the Mississippi and north of the Ohio river. Out of it Ohio territory was first organized and admitted as a State in 1802. Indiana Territory was then the name it took. Afterward, Michigan Territory organized in 1805, embracing Wisconsin and the region farther west; next Illinois, organized as a territory in 1809. Last of all, the territory of Wisconsin, organized in 1836. This territory comprised what is now Iowa, Minnesota, and half of Dakota. Iowa was organized as a territory in 1838, with Minnesota attached. Wisconsin was admitted as a State in 1848.

There were two conventions for the framing of a State Constitution, the first constitution having been rejected by the people. The members of these two conventions have been honored by certain gentlemen with a volume of brief memoirs, hence the title: "Fathers of Wisconsin," though the title would be as appropriate to the early missionaries as to the constitution framers. The compilers of these memoirs are H. A. Tenney and David Atwood. The volume contains 400 pages, and no less than 203 biographical sketches. It is fortunate that these surviving members have taken this method of perpetuating the names and memories of the constitutional founders of the State. With the disrepute that has been brought upon pioneer history and biography by the traveling swindlers who call themselves historians, and who will write the biography of any man who will pay for it, it seems a relief to have the work fall into respectable hands. No greater swindle has been perpetrated upon the citizens of the west than that by Williams Brothers and other parties, who have, for the last three or four years, been publishing so-called County Histories. We welcome this volume with the hope that it may be only introductory to others prepared by the citizens of the State, and made reliable by the reputation of the writers themselves.

1. G. Halevy. *Recherches Critiques sur l'Origine de la Civilization Babylonienne*. Reviewed by Dr. Schrader, in the *Genü Literaturzeitung*, 1879, Ass. 272.
2. (a) Ueber die Datirung eines babylonischen Thontafel aus dem elften Jahr des Cambyses. Extract from the monthly report of the Imperial Academy of Sciences, in Berlin, Feb. 1879. (b) Das Elfte Jahr des Cambyses. Extract from the *Journal of Egyptian Language and Antiquity*.
3. Die Namen des Meere in den Assyrischen Inschriften. Extract from the *Journal of the Imperial Academy of Sciences*, in Berlin, 1878.
4. Keilschriften und Geschichtsforschung. Ein Beitrag zur Monumentalen Geographic, Geschichte und Chronologie der Assyrier. Giessen, pp. vii, 555.
5. See especially Rev. Sayce. *The Academy*, March 2, 1878, p. 184.

Through the kindness of Dr. Eb. Schrader, of Berlin, we received several recent publications from his pen, all of them quite important, and some of them indispensable, to the Assyriologist. For the benefit of those especially interested in Assyrian studies, we give here brief notices of these works:

- 1st. G. Halevy. *Critical Researches upon the Origin of the Babylonian Civilization*.¹

In the *Journal Asiatique* of 1874 and 1876, appeared two critical papers from the pen of M. G. Halevy, the aim of the writer being to show that the assumed Turanian population and language of Babylon were mere delusions on the part of Assyriologists. He attempted to show, also, the so-called bilingual texts and the Syllabaries, instead of exhibiting two different languages, were entirely Semitic in their origin and character. These papers called out at the time replies from Dr. Oppert and Mr. Lenormant, of France, and being subsequently published in separate form, Dr. Schrader devotes to them a brief criticism, in the pamphlet before us. In point of fact M. Halevy had but a slight acquaintance with cuneiform studies and, like too many others before him, had ventured upon ground with which he was not familiar. The existence of a Turanian population and language in ancient Babylon is so apparent from the cuneiform inscriptions, that no Assyriologist has entertained a doubt respecting it for many years past. Dr. Schrader limits himself to the correction of some of the chief errors into which M. Halevy had fallen, since his mistakes had been already sufficiently exposed by MM. Lenormant and Oppert.

- 2d. (a) *Upon the Date of a Babylonian Clay Tablet in the Eleventh Year of Cambyses*. (b) *The Eleventh Year of Cambyses*.²

In the *London Academy* for May 19, 1877, Mr. W. St. C. Boscawen had shown the exact agreement of the dated contract tablets, appertaining to the Egibi Banking House, which flourished in Babylon during the reigns of several kings, with the Canon of Ptolemy and the Chronology of Herodotus, covering the same period, from 604 to 521, B. C. As is well known, the Canon of Ptolemy and the chronology of Herodotus limit the reign of Cambyses to eight years; or, more exactly, to seven years and five months. Sometime after Mr. Boscawen's researches, Mr. Theo. Pinches, connected with the British Museum, discovered another Egibi tablet, dated in the *eleventh year* of the reign of Cambyses. Apparently at first the result of this discovery was to discredit entirely the Canon of Ptolemy and the Chronology of Herodotus, and Mr. Pinches communicated these facts to the Society of Biblical Archaeology of London. Subsequently, copies of three Egibi contract tablets, dated respectively in the first, seventh and eleventh year of Cambyses' reign, were sent to Dr. Schrader for examination and study. The two papers, whose titles are given above, embody the result of his investigations of these tablets. From the tablet dated in the first year of Cambyses, it appears that he was only a subordinate ruler, conjointly with his father, Cyrus, who was the chief ruler. Cambyses is styled King of Babylon simply, while his father is styled King of Countries, ruling at the same time. But from the tablet dated in the seventh year of Cambyses, it appears that Cyrus had died in the meantime, and Cambyses, ruling alone, is himself styled King of Countries instead of King of Babylon, as in the other tablet. Finally, on the tablet dated the eleventh year of Cambyses, he is again styled King of Babylon. Considering all the facts, it would seem most reasonable, as Dr. Schrader holds, that the Canon of Ptolemy and Chronology of Herodotus limit intentionally the reign of Cambyses to the period during which he ruled alone, after the death of his father, Cyrus. Thus, that which at first seemed to present a serious difficulty, admits now of a very rational explanation.

3d. *The Names of the Seas in the Assyrian Inscriptions.*³

The modes by which, in the inscriptions, the various seas are designated, which were known to the Assyrians, present many variations; and it is sometimes difficult to determine the particular sea to which reference is made. The paper, therefore, which Dr. Schrader has published on this subject, being in every respect reliable, is of much value to Assyriologists as well as to science. It is exhaustive and critical, and is thus everything that could be desired.

4th. *The Cuneiform Inscriptions and Historical Researches. A Treatise upon the Monumental Geography, History and Chronology of the Assyrians.*⁴

This book demands a far more extended notice than any of those to which attention has been directed. It is the latest product, on the part of Assyriology, of the Gutschmid-Schrader controversy in Germany, an entirely prejudiced and one-sided representation of which, from the pen of Prof. Theod. Nöldeke, appeared a year or two since in one of our leading theological journals. As nearly as we are able to judge, Assyriology and Assyriologists, in Germany, had been received in high official quarters with considerable favor and patronage. This fact, as it would seem, had awakened some feeling upon the part of the disciples of "the old learning." The signal for attack was the issue of a new edition of Prof. Dunker's History of Antiquity, which was criticized by Assyriologists themselves on account of his careless appropriations from irresponsible versions of Assyrian texts, and especially his adoption of Prof. Moritmann's interpretations of the inscriptions of Van.⁵ Any Assyriologist could but see that his use of the materials was without proper care and selection. But it afforded the pretext, and Prof. Gutschmid was not slow to improve it, Dr. Schrader being the one to receive his more especial attention. No one has ever attempted to justify the very objectionable spirit and style of his criticisms. The work before us, then, is an elaborate defense of Assyriology and Assyriologists, exhibiting the utility and importance of the study of the cuneiform inscriptions. We offer here a few extracts illustrating the estimation in which Dr. Schrader's reply is held by European critics. Rev. Prof. Sayce, of Oxford, in the London *Academy* of Dec. 21, 1878, has the following:

"Gutschmid's attack on the results of Assyrian decipherment, and more especially on Prof. Schrader, the *Coryphens* of Assyrian decipherment in Germany, has called forth an elaborate and exhaustive reply from the latter. Unlike most controversial books, however, it is a good deal more than a mere reply. It is an important contribution to the ancient history and geography of the East, which presents the results of Assyrian research in a clear and convincing form to the general reader, and offers much that is new to the special student. After reading Prof. Schrader's chapters on the Assyrian canon and its relation to the chronology of the Old Testament on one hand, and the statements of classical writers on the other, it will be difficult for even the most determined advocate of 'the old learning' to refuse any longer to admit the completeness and exactitude of the Assyrian chronology. It may be hoped that after this volume we shall hear no more of those attacks on the results of Assyrian decipherment which still occasionally make their appearance and are the fruit of either ignorance or misconception. Assyrian scholars have, no doubt, much to answer for. Some of them have been too ready to build theories on defective evidence, while others have rushed into print before they had passed through the long training and drudgery needful for interpreting the inscriptions. But the way to correct these errors is not by confounding together the certain and uncertain, or by assuming that one who is entirely ignorant of the subject is better able to judge of it than those who have made it their special study."

Upon some questions it is probable that Assyriologists themselves might hesitate to adopt Dr. Schrader's views; but so far as concerns the vindication of Assyriology, the reliability and importance of its results, every cuneiform scholar will be free to acknowledge his great indebtedness to the author of the work before us.

There are various other works of recent date by other writers which we hope to be able to notice at another time. Dr. Delitzsch, of Germany, has published some excellent and critical treatises relating to Assyrian studies.

MM. Lenormand, Oppert and Meriant, also, of France, have made some most valuable contributions to cuneiform science, and the English Assyriologists, as usual, are doing much for this department of Orientalism. The Society of Biblical Archaeology of London especially, through its published "Transactions" and other channels, is doing a most excellent work in the advancement of Assyrian studies. It is greatly to be regretted, and is, in fact, almost a reproach to American scholarship, that so little interest is taken, and that by so limited a number, in those researches that promise so much of value to the Biblical critic and the friends of revealed religion. If Germany, England, France, has each its school of Assyriology, it is to be hoped that America also will have in the near future its school, and that we shall not be forever content to accept our knowledge in these matters at second hand from foreign sources.

O. D. MILLER.

NOTE.—It would seem that we have an important confirmation of the Turanian character of the Akkadi, in the inscription of *Agu-kak-rimi*, additional fragments of which were discovered by Mr. Smith, and which was an Assyrian copy of a Turanian original, dating from a period, according to Mr. Smith, anterior to 2,000 B. C. (Assyrian Discoveries, p. 225). Everything indicates that this King, and his ancestors, whom he names, appertained to a Kasite dynasty more ancient than any other, of which the inscriptions afford us distinct notices. This monarch proclaims himself King of the Kassî, the Akkadi of Babylonia, the colonizer of the land of Asneen-nak; also King of Padan Alman, of Geetimim (or the Gôim), and of the four regions; but no mention is made of Sumis, nor of Kiengi (see *Ibid.* p. 227; Cf. Trs. So. Bib. Arch. 4, p. 142). From the data here afforded, it seems necessary to admit: 1st. The original inscription was written in the Turanian language, and at a period anterior to the rise of the Assyrian, or any other Semitic power; yet the Akkadi are named next after the Kassî, the dynasty itself being Kasite. 2d. It was only subsequently that the Semitic, especially the Semitic Assyrian power rose into prominence, the name Samir being employed to designate this element of population.

THE PATRIARCHAL DYNASTIES; FROM ADAM TO ABRAHAM, SHOWN TO COVER 10,500 YEARS, AND THE HIGHEST HUMAN LIFE ONLY 187. By T. P. Crauford, of Tung Chow, China. Josiah Ryland & Co., Richmond, Virginia. 1876. pp. 165.

The author proposes a readjustment of Biblical chronology. He says: "The term of man's existence on the earth is the great question of the age. . . . Ethnology, philology and other kindred studies have in like manner so extended the bounds of human history as to overthrow all our systems of chronology." He thinks the difficulty apparent rather than real, having grown out of a general misunderstanding of the tabulated names and dates recorded in the fifth and eleventh chapters of Genesis.

He lays down and seeks to establish these two propositions:

"I. That the antediluvians did not live, as individual men, to the marvelous length of over eight and nine hundred years, but on an average only 120, and the postdiluvians 128.

"II. That the two tables of Genesis present, in regular succession, nineteen patriarchal houses, or dynasties, or governments, covering a term of, at least, 10,500 years duration.

"Or, from Adam to the Flood, 7,737 years; from the Flood to the birth of Abraham, 2,763 years; from the birth of Abraham to Christ, 2,000 years; from Christ to the present time, 1,876 years; making a total of 14,376."

The author quotes the antediluvian table of Gen. V, and says upon it:

"I would call attention to the fact that the several sentences composing each of the paragraphs above quoted are, in the original text, all of the same kind, all equally complete and independent, all beginning with the conjunction 'and,' all wanting the nominative pronoun 'he,' and all but the last requiring the same pause and the same punctuation mark—in English the colon or semi-colon. As the English language requires the nominative to be expressed before the leading verb in every such independent sentence, its omission here, in any case, will produce confusion as to the time and connection of events recorded. Unfortunately, the translators of the bible have, apparently without reason or discrimination, inserted the 'he' in some places and left it out in others."

He claims that the whole question hinges on the interpretation of the sentences of these tables of Genesis V. He says when it reads, "Adam

lived 130 years," "Seth lived 105 years," etc., the figures refer to the length of human life, and not to the time when their sons were born to them. He claims that, "The Hebrew Scriptures never employ this kind of phraseology, or the verb 'lived' with definite numbers, to indicate the age of a man at the birth of a son; but they invariably say, such an one *was a son of* — years, when his son was born unto him, or some other event took place."

He says the Hebrew has set forms of language to express each of such ideas. The expression is always something like this: Genesis XXI, 5 (rendered literally). "Abraham was a son of an hundred years when his son Isaac was born unto him." He quotes seventeen such instances in the records between Abraham's and Jehosaphat's time, and declares there is not an exception to this rule in the Hebrew Scriptures. He furthermore declares that the verb *liveth* is not used to mark a certain period midway in one's life in any language with which he is acquainted; and he reads seven, ancient and modern. And on the other hand he says *liveth* or *lived* is the verb universally employed in the bible to indicate the termination of men's lives; and quotes Gen. xxv:7; xlvii:28; 1:22; II Kings xiv:17; Job xlii:16; etc.

Taking the ages to which the English version says the antediluvians lived and then begot a son, the author finds an average of 120 years; and this he believes to have been the average length of their natural lives. In confirmation of this view he quotes Gen. vi:3: "Yet his days shall be 120 years," which was evidently written at the close of the antediluvian period; and Mr. Crawford calls attention to the fact that the verb which in English is rendered "shall be," is in the Hebrew in the *past tense*, and so would read in English, "Yet his days *have been* 120 years." He claims that a fair interpretation makes this to mean, that up to that time the average age of men had been 120 years.

The author lays great stress on the fact that no where else in the Scriptures, nor in any records in the world, outside of the tables of the fifth and eleventh chapters of Genesis, as commonly understood, have we any hint of such long lives—of lives exceeding 200 years. He refers to Abraham, the immediate successor of these long lived patriarchs, of whom it is said: "Thou shalt go to thy fathers in peace; thou shalt be buried in a good old age;" and he marks the fact that the "good old age" of the honored servant, who immediately succeeded those who are commonly supposed to have lived from five to nine hundred years, *was 175 years!*

He quotes from the records of the Egyptian priest Manetho and shows that he gives the average lives of the kings of the first five dynasties of Egypt as 95 years. Mr. Crawford shows that all the best Egyptologists carry the time of those dynasties back to a date before the Flood according to Usher's chronology, and certainly contemporary with the postdiluvians of Gen. xi, when we adopt a modification of the common reckoning.

From Berosus he shows the average length of the lives of the kings of the second Chaldean dynasty, which is generally believed to cover the period between Salah and Terah, to have been only 88 years; while from Chinese history the contemporary dynasty of that country is shown to have had kings whose average age was only 77 years. In view of these facts he says: "The most ancient and reliable histories know nothing of human life reaching 200 years." We must concede these to be important facts to be considered when weighing his theory, so calculated to revolutionize our ideas of biblical chronology.

The author next proceeds to give his explanation of the term "begot a son in his own likeness," and notes the fact that the words "a son" and "own" are not in the Hebrew and are supplied in the translation. He claims that a fair construction would admit of supplying the word *heir* or *successor* as well as "a son." He thinks the term "own likeness, after his image," are used in Gen. v:3 in the sense of exaltation, as when first met with in Gen. 1:26: "And God said, Let us make man in our *image after our own likeness*, and let them have *dominion*," etc. And it is his theory that these words indicate that some one was made the heir of Adam's covenant blessing. He says: "In this sort of sense I conceive Seth was said to be Adam's likeness and image, or successor and representative."

Discussing the word "begot," he claims it to be "much less comprehensive than its original *yolad* which, among other things, means to

make, to create and to constitute. Besides, *yolad* in this sentence, and every where else in both tables, is in the Hiphil, or 'causative form' of the verb." The author thinks the passage should read—"And he begot a son, whom he made his successor and representative; and he called his name the Appointed One;" he calling attention to the fact that the name Seth means *substituted* or *put in the place of*; from which he draws the conclusion that, "a younger son who did not have the birth-right *by nature*, was made the heir of the religious promises *by appointment*, the name Seth being given him as significant of the fact." He then calls attention to the many instances recorded in the Scriptures where younger sons were preferred before the elder.

Considerable space is devoted to explaining his theory that the names in the tables are those of families, or dynasties, and not simply of individuals. He supposes Adam had twelve sons (Deut. xxxii:8), and that a third son, not Seth, succeeded Cain and Abel, and the Adamic family reigned in his line for 930 years, or the period which is commonly supposed to have been the length of Adam's life, and then "from corruption or some other cause, the regular succession was broken up. These chiefs all reigning under the house or dynasty . . . commonly called Adam; as in China, where the various dynasties or reigning families are simply called Hia, Shang, Chen, Tsin, Han, etc., without any kind of qualifying epithet." He believes Seth's line then reigned 912 years, when for some reason the power passed from that family to the line of Enos, a younger son of Seth, who had received the designation from him to assume the headship if the elder line should become extinct. This seems pretty strong assumption, however plausible it may be. But Mr. Crawford insists that "neither the Jews nor any other nation, did, or ever could, reckon time by the ages of the fathers at the birth of their sons." This is a strong point. And the author earnestly argues that, when the record says "Adam lived 130 years," "Jared lived 162 years," we have complete sentences, and they refer to their lives; and that the next clause, "and begot a son in his own likeness," etc., means that Adam, and after him each of the other heads of families, designated, or appointed, one of his younger sons to become heir of the promise, and succeed to the government in the person of his descendants, if the older and natural line should become extinct.

That is a fair statement of the author's theory.

The latter part of the book is devoted to many side questions which Mr. Crawford thinks throw light upon the problem or bolster his particular view.

Probably every candid reader will think our missionary scholar has got hold of some truth; for most biblical students are ready to concede that we must have some more, if not much more, elbow room for the well authenticated facts recorded in ancient history, and revealed in modern days by the discoveries of archaeology, philology and ethnology. The reconstruction of theories concerning the interpretation of the first chapter of Genesis should teach us that we may yet secure as satisfactory an interpretation of the fifth and eleventh chapters of the same book.

Probably no good Hebrew scholar of the present day is satisfied with Usher's chronology; but it is doubtful if they are ready for such a radical revolution of view as Mr. Crawford's book furnishes.

While the work shows marks of hasty preparation, it should be known that it was put through the press while the author was in China, and could not supervise it. It will repay reading on the part of any one, as it will stimulate thought and research in that important direction.

The Proceedings of the American Association for the Advancement of Science. Twenty-eighth meeting held at Saratoga Springs, N. Y., August, 1874, September, 1880.

The papers on Archaeology contained in this volume are as follows: "The Sign Language of the North American Indians," by Garrick Mallory, U. S. Army; "On the Explanation of Hereditary Transmission," by Louis Elsberg, of New York, N. Y.; "Monograph on Jude," by Mrs. E. A. Smith, of Jersey City, N. J.; "Description of a Polished Stone Implement, found in Monkton, Vt.," by John M. Currier, Castleton, Vt.; "Archæology of the Champlain Valley," by George H. Perkins.

The first paper has been published in substance in the *ANTIQUARIAN*, and the substance of the last in the *American Naturalist*. One thing is

noticeable in the Report, that not over one-third of the papers read are published, and these do not appear until nearly a year after they are read, a fact which argues, we think, for the support of the ANTIQUARIAN, and one which should make the number of our contributors increase, especially as it becomes more apparent how many papers would not see the light except for our magazine.

Contributions to the Archaeology of Missouri by the Archaeological Section of the St. Louis Academy of Science. Part I, Pottery. Geo. A. Bates, Salem, Mass., 1880. Folio, 30 pages letter press; 25 pages plates.

For several years Archaeological collectors and museums in this country have been exhibiting specimens of a unique kind of pottery in great numbers, and the information has been given that it was the famous New Madrid or Missouri pottery. This book contains a full description of the place and the pottery, and from it we have taken the following facts:

Prof. W. B. Potter describes the locality as follows: "From the Mississippi river, near the town of Cape Girardeau, a line of bluffs, at times bold and abrupt, and always well defined, extends in a general southwesterly direction across the southeast corner of the State and on into Arkansas. This forms the northern and western boundary of the so-called swamp region. The general surface of this region is but little above the mean stage of water of the Mississippi. It is broken up into a series of long and narrow tracks of sand, known as "Ridges," and intervening cypress swamps, through which small sluggish streams make their way, expanding at times, into open lakes, and further south into great bayous, connected with the present channel of the Missouri. The ridges are generally quite level; have an elevation of about 15 feet above the swamps, and the soil is very rich and has been cultivated in many places for more than fifty years. The length of the ridges is from thirty to forty miles and the width from three to ten. The lines of swamps and bayous between the ridges are from two to twenty miles wide, and twenty to forty long." This swamp region, it appears was once the abode of a numerous people, and the remains of extensive settlements have been discovered on these ridges, descriptions of which are contained in the volume. One peculiarity of these settlements is that they are generally surrounded by a wall which seems to have served the purpose of a levee as well as defense; and that there are still left numerous marks of the abodes of the people in the form of circular depressions, as well as the evidences of their high state of cultivation in the numerous specimens of pottery. These depressions have an average depth of 27 centimetres and a diameter of 30 metres. Within the walls and the mounds in which the pottery has been found afford unmistakable signs of permanent habitation. There are at least four of these settlements or ancient villages in one of the two localities visited, that is near New Madrid, Mo., and others near the town of Commerce. The mounds in which the pottery was found are situated on the borders of the ridges and are generally about 11 metres in height and from 120 to 150 metres in diameter. (The volume uses the metre as the standard—another of those so-called improvements which, like the spelling reform, only confuses but does not establish anything.) The pottery itself is made of a dark greyish clay, mixed with shells. None of it is glazed, nor does any of it bear trace of having been turned on the wheel. Most of the vessels are plain black. In some, the ornamentation is moulded in the clay, but does not differ in color from the rest of the vessel. In others it is painted in red, white or black, but not burnt into the clay but simply laid on. Over 4,000 specimens of this kind of pottery have been found and are now in the museum of the Academy of Science of St. Louis, in the Peabody Museum at Cambridge, Mass., or in the hands of private collectors, Prof. Potter, Dr. Engleman, H. N. Rust, and others.

The volume contains 24 lithograph plates, descriptive of the different forms, sizes and patterns, but contains no description in the letter press of either the specific forms or of the patterns except a very general one by Dr. Ebrist. Mound Builders' pottery is generally of a dark fine-grained clay, differing from the later Indian by its fineness and by its general finish. There is an intermediate stage of art manifested by it which distinguishes it from the Pueblo pottery of the west and the rude specimens of the eastern tribes, and which may be compared to that of the bronze period and the Lacustrine villages of Europe. The ornamentation so far as shown by the

cuts portray none of the symbolism of the Pueblo or Mexican pottery, such as the modified form of the Greek cross, and of the Suastika or fire symbol of the far east.

The St. Louis Academy of Science deserves great credit for publishing so handsome a volume and presenting the facts in a permanent and valuable form.

BOOKS RECEIVED.

Inaugural Address of the Right Hon. Lord Aberdare, F. R. S., President of the Royal Historical Society. delivered on the 14th Nov., 1878.

Metropolitan Museum of Art. Tenth Annual Report.

Western Reserve and Northern Ohio Historical Society. Tracts No. 51-52.

The Numismatic and Antiquarian Society of Philadelphia. The Remains of an Aboriginal Encampment at Rhehoboth, Delaware. A paper read before the Society Feb. 5th, 1880, by Frances Jordan, Jr., Philadelphia, 1880.

American Oriental Society Proceedings. May, 1880.

Archæological Explorations by the Literary and Scientific Society of Madisonville, Ohio.

Hittites in America, by John Campbell, M. A., Prof. in the Presbyterian College, Montreal. From the *Canadian Naturalist*, Vol. IX., No. 5.

American Journal of Numismatics and Bulletin of American Numismatic and Archæological Societies. New York, Vols. 1, 2, 3 and 4.

Archæological Institute of America. First Annual Report of the Executive Committee, 1879-1880, presented at the annual meeting of the Institute, Boston, May 15th, 1880. Cambridge, 1880.

On the Origin of some American Indian Tribes, by John Campbell, M. A., from the *Canadian Naturalist*.

The Geology of Morrison County. From the Sixth Annual Report of the Geological and Natural History Survey of Minnesota, by H. N. Winchell, State Geologist, Minneapolis, 1878.

The Correct Arms of the State of N. Y., as established by law since March 16, 1778. A historical essay read before the Albany Institute Dec. 2, 1879, by Henry A. Homes, LL. D., of the State Library, Albany. 1880.

Notes on Anthropology. By Prof. O. T. Mason. From the *American Naturalist*, 1880.

Early Chapters of Cayuga History—1656-1684.

Latin Pronunciation. By S. S. Haldeman, LL. D., Prof. of Comparative Philology of the University of Penn. Reprinted from *Stoddard's Review*.

Forty Vocabularies of Western Languages.

Trubner's American, European and Oriental Literary Record, a register of the most important works published in the U. S. and S. A., India, China, Europe and the British colonies.

Proceedings of the New Jersey Historical Society. Vol. IV., No. 1. 1879.

The Journal of the Cincinnati Society of Natural History. October, 1879, Vol. 2, No. 3. July, 1880, Vol. 3, No. 2.

Transactions of the Literary and Historical Society of Quebec, Sessions of 1879-89, Quebec.

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Sous-Commission D'inventaire des monuments Mégalithiques et des blocs erratiques De La France et de L'Algérie Monuments Mégalithiques question.

Sechsunddriessigster Bericht zur Alterthum, skunde Schleswig-Holsteins, von Heinrich Handemann, Mit Holzschnitten Kiel, 1879.

L'ancien age De Fer en Islande et dans La partie Orientale Du Danemark : Les Sepultures A squelettes, par C. Engelhardt. Traduit par E. Beauvois, Copenhague, 1880.

Matériaux pour L'Histoire Primitive et Naturelle De L'Homme. M. Emil Cartailhac. 21 Série. Tome XI. 1880. 1re et 21 Livraisons. Paris. Ch. Reinwald, Librairie.

Sur L'origine Des Animaux Domestiques, par G. De Mortillet, communication a propos de la discussion sur L'origine des aryas.

Histoire Grecque par Ernest Curtius Traduite de l'allemand sur la cinquième édition par A. Bouché. Leclercq prof. suppléant a la Faculté des Sciences de Paris. Tome Premier, Paris, 1880.

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EDITED BY
REV. STEPHEN D. PEET.

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We would call attention to the fact that the AMERICAN ANTIQUARIAN and the ORIENTAL and BIBLICAL JOURNAL are hereafter to be combined, the ANTIQUARIAN to embrace all the material which has heretofore appeared in the other Journal. This gives to the ANTIQUARIAN much more variety and a greater range of topics, and adds to the list of contributors a large number of very able and learned men, and at the same time concentrates into one magazine the whole subject of Oriental, Biblical, Classical, European and American Archaeology.

The contributions on American subjects will take the precedence in the order of arrangement, those on Oriental and Biblical Archaeology being in a department by themselves, but the aim will be to make the magazine as broad and comprehensive as possible. Especial attention will be given to the review of articles in foreign magazines, and to the record of all late discoveries and explorations.

We have no doubt that in the new form the ANTIQUARIAN will interest a much larger class of readers, and we expect for it a wider circulation, and a great increase in the number and variety of contributions.

For Biblical and Classical Scholars the magazine will be especially valuable. It is well known that the discovery in the East have opened a new world, and that the light thus thrown upon Ancient History and on Bible and Classic Studies have given a wonderful impetus to learning, though the facts have heretofore been so scattered that only a few students have reaped the results from these discoveries. Our hope is that we shall be able to so collect into proper form the various sciences, that our readers shall have the benefit of the latest investigations in all parts of the world, and that American scholars may come to regard the magazine as their medium of communication. The plan is a sound one, and is worthy of the support of all who are interested in Oriental, Biblical or Classic Studies, and will help support the Magazine.

TESTIMONIALS TO THE ORIENTAL DEPARTMENT.

THE AMERICAN has secured a large corps of special contributors, including some widely known names, and the personal force of the editor's own ability, industry and broad outlook. A. P. BOSTONIAN, in a personal and related lines of inquiry do not rouse much non-Christian enthusiasm, it was inevitable that the department of Oriental and Biblical Archaeology should fall chiefly into the hands of clergymen like Drs. Crosby, Abbott, and Strong; Rev. T. O. Paine, the Exeter scholar, and Rev. A. H. Sayce, the Oxford Assyriologist, but it will help to rectify this wrong with its miracles, if there should be no sign of unsatisfactory bias in the department, presumably committed to certain theological conclusions. Nevertheless, this portion of the magazine is certain to be timely and valuable, and it will probably have a wide circulation of its own. *New York Observer.*

We know of nothing that is so well calculated to aid the Biblical student in his studies. We therefore feel the liveliest interest in the success of the enterprise, and hope Mr. Peet, who is qualified to undertake this work, will be abundantly encouraged. *Central Presbyterian, Richmond, Va.*

We take pleasure in our interest in it. Its objects are: "First, to give the results of the latest researches in Oriental History, especially as they may illustrate Scripture history. Second, to present the latest views on Biblical criticism, but from a strictly evangelical standpoint. Third, to discuss the various discussions on science and religion so that readers may have before them the latest phases of thought on these subjects in briefest and most comprehensive form. Arrangements have been made with the best scholars of this country and of Europe to furnish articles in their own departments, and a digest of the various reports and papers which will be furnished by competent authors and translators." *Christian Secretary, Portland, Me.*

It is published in the interest of evangelical truth, and, as we believe that true science and evangelical Christianity are in the highest harmony, we shall expect to find this periodical furnishing great assistance in the elucidation and confirmation of the truth of the Bible. The articles in the present number are short, but they deal with interesting subjects, and there is about them the atmosphere of health and vigor. *Church Advocate, Harrisburg, Pa.*

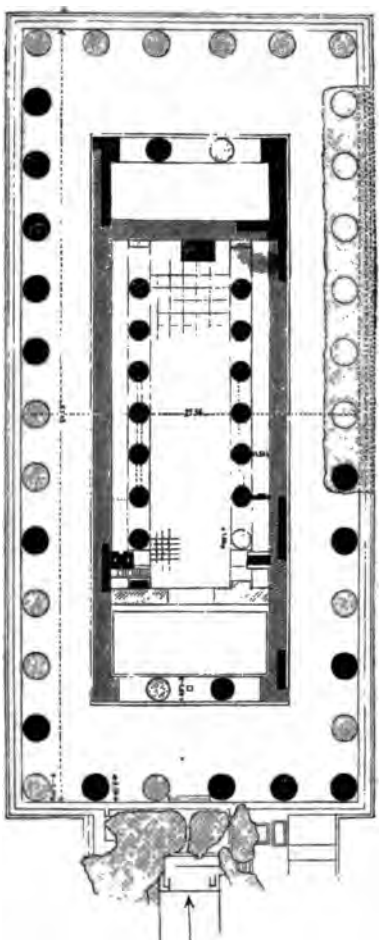
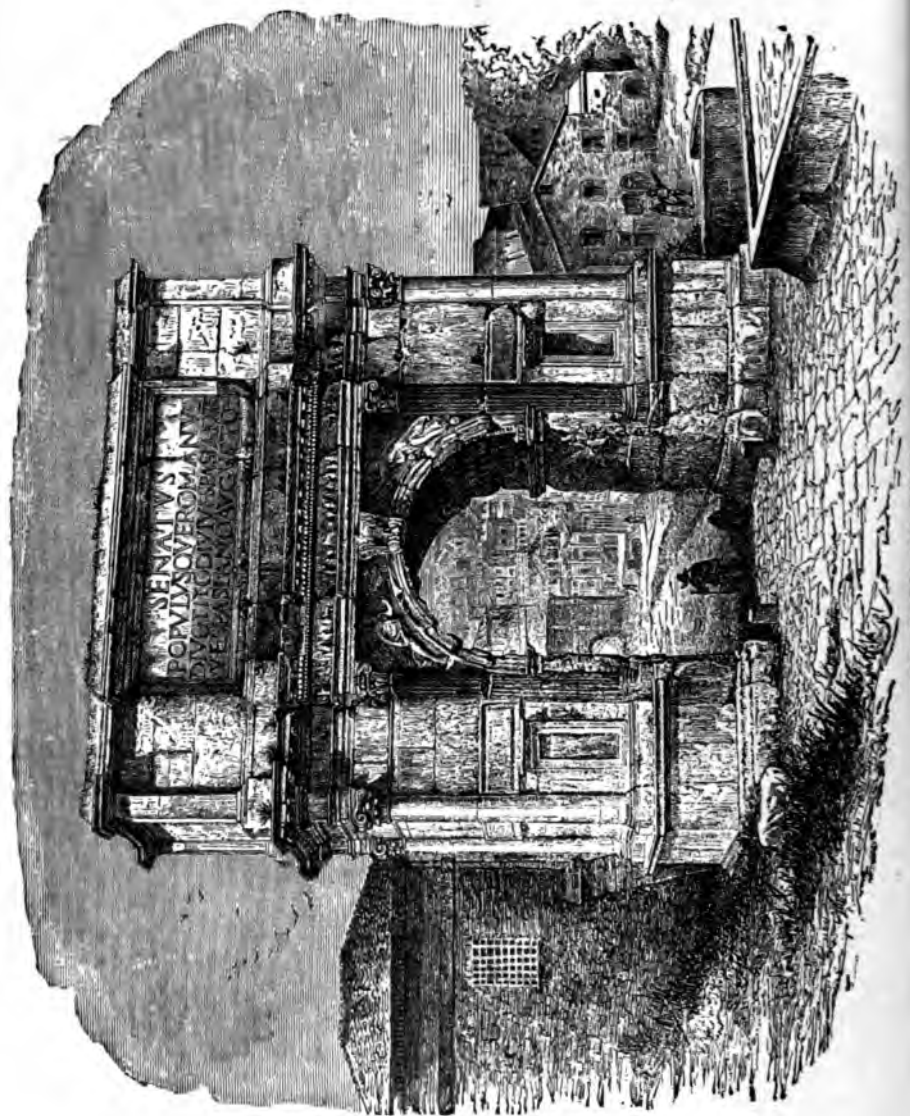


Fig. 2.

Diagram of the Temple of Zeus, at Olympia.



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No. II.

THE MILITARY ARCHITECTURE OF THE EMBLEMATIC MOUND BUILDERS.

BY REV. STEPHEN D. PEET.

The defensive works of the prehistoric inhabitants of this country present an interesting subject for study. They are found in nearly every locality where prehistoric works exist at all, but they have never been favored with a separate treatise, for the reason that they have never been classified by themselves, so that their distinctive points could be ascertained or described.

There may, indeed, be a difficulty in so treating them, for it is often uncertain for what purpose many of the existing structures were used, and whether the military, the domestic or the religious use is the one apparent.

It is undoubtedly true of the prehistoric population that their domestic and social life was frequently united with their military, and it is probable that very few works existed among them which were used exclusively for military purposes. The defenses were undoubtedly residences for the whole people, as well as defense, for it is not known that any military class existed among them which occupied any structure separate from the people.

It may be said, too, that there is another difficulty in classifying the military structures, and that is, that no specific form of military architecture has been found. If the domestic and religious habits of the people had arrived at that stage where they had begun to impress themselves upon the architecture and so given rise to the different styles of building in the different sections of the country, the military life failed thus to make any such distinctive marks.

The perpetuity of their domestic architecture in the various structures which are discovered, is such that we are convinced that certain styles of building were peculiar to certain geographical sections if not to different races, so that these different geographical districts present to us all the peculiarities

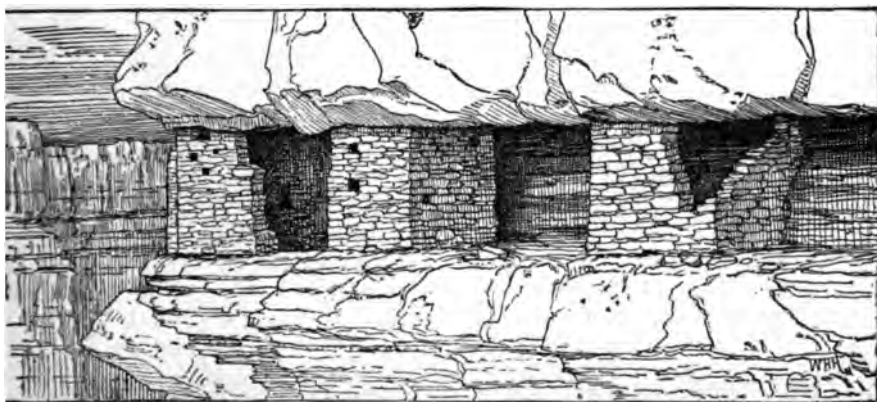
of different orders of architecture. For instance, the civilized races of Mexico, have one style of erecting houses, the Pueblos of Arizona another, the Mound Builders another, and the later tribes of Red Indians still another, and these different styles really are as complete orders of architecture, with their marked characteristics, as were the different orders of the Doric, Ionic, Corinthian or Egyptian, though on a much ruder or more primitive pattern. Whether these different styles would have become ethnic, or not, they were, and are, peculiar to each geographical section, and are as distinctive of localities as were the different orders of ancient architecture.

But this classification of the architecture of the different localities is based mainly on the domestic structures rather than on the military. If there was any distinction in the military architecture of the different sections, it is found as much in the material which was used, as in the peculiar finish which characterized all the works in common.

We certainly cannot predicate of the works of any locality that they are exclusively military, nor of another that they were exclusively domestic, but the style of the domestic structures differed, apparently, much more than the military. No more can we say that the agricultural class dwelt in one locality and the hunter class in another, nor even that the village life was peculiar to one section and not to another, for it would seem that nearly all these modes of life appeared in succession in each, and left their marks in the varied structures, the remains of which are now discovered.

Whether these modes of life and style of architecture can be identified with the different races which overran this country, and whether the works can be separated and distinguished from one another or not, it is evident that nearly all modes of life and all stages of culture have left their traces on the soil. Still, the works which most prevail are those which are peculiar to a peaceful life, and scarcely any locality or even any style of architecture gives token of an exclusively war-like condition, though the Cliff Dwellers of Arizona come the nearest to that state, they having their residences in the sides of immense cliffs, and showing by their very style and place of building that they were in a condition of danger and conflict, rather than of peaceful employment. In fact such is the preponderance of the domestic and religious life that the military purpose is nearly always mingled with the residential, and sometimes is almost lost in the domestic architecture of the people.

The different orders of architecture was often expressive of different ethnic traits, yet these ethnic traits may be more the adaptation of the modes of life to the geographical surroundings than the expression of any radical ethnic differences. The



Mound Builders of the Mississippi Valley, for instance, may have been the same race with the Pueblos, or ancient village dwellers of the Rocky Mountain region, and they the same race with the ancient inhabitants of Mexico and Yucatan, and even Peru, yet their geographical surroundings were so different, and, possibly, their stages of culture so distinct, that even their domestic architecture had characteristics as marked as if it belonged to different races, and so, for the purposes of classification, it is as distinct as if it were founded on ethnic traits.

It should be said that the architecture of the more ancient races in these different localities is more distinctive than among the later tribes. The native races which now inhabit this continent could hardly be distinguished from one another, either in appearance or modes of life. To the inexperienced observer there is hardly any difference among them, but every one who travels through the various portions of the continent is at once impressed with the fact that among the ancient works the differences are very great. At times the present inhabitants are found occupying the ancient seats, and inheriting the ancient modes of life, and then the differences between the races are perceptible; but in such cases we ascribe the differences in the architecture and modes of life more to the influence of the ancient inhabitants, who have thus transmitted their habits and ideas, than to any present race qualities.

There are localities where the waves of population have swept over the land, leaving the mark of their succession in their habitations or their mines, but in such cases the differences between the earlier and the later structures are as great as between the works of different localities. One duty of the archæologist is to distinguish between these different waves, and to identify the works of the successive races. Where this is done, the works which are more especially those of the ancient Mound Builders may be ascertained, and the defensive works of that people may be understood, and the works of the later Indians can be distinguished also.

If, for instance, there are among the structures of the Mound Builders of Ohio many traces of the works of the later Indians, or, if among the works in Tennessee, traces exist of a population both preceding and succeeding the time of the Mound Builders, then the works of the one class should not be confounded with those of another.

The only way to arrive at any safe conclusion in this regard is to take some one locality and study all the works of that locality, and so discover the distinctive points in the architecture of each race. The correlation of the architecture of all kinds it is especially important to study, for by this correlation may



Fig 1.



Fig. 6.



Fig. 5.

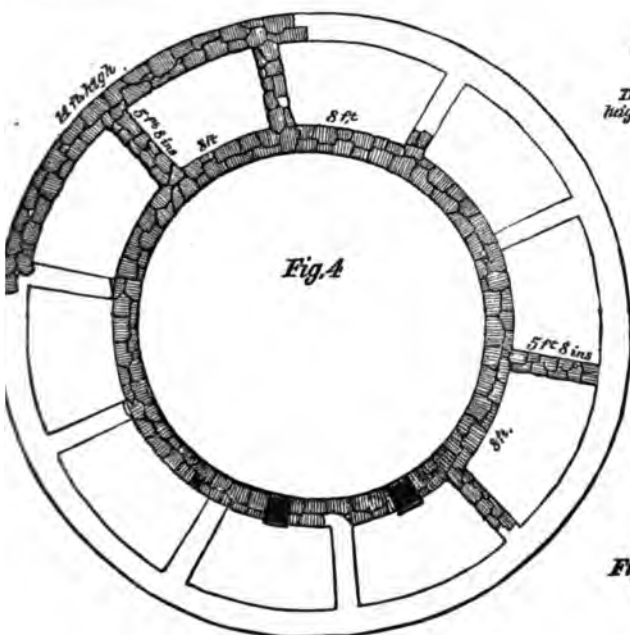
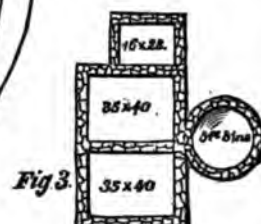


Fig. 2.



be ascertained what is peculiar to one and what to another race, and so the succession of races may be ascertained.

I. But in reference to the military works, it may first be profitable for us to study the architecture of the different geographical sections, and so learn what style is peculiar to each. If, for instance, the cliff dwellers have one kind of defense and the Mound Builders of the Mississippi valley and the red Indians another, it is important that we knew the distinctive points of each, and so, in studying the different geographical divisions, we may even classify the military works of each.

1. The material which was used in the military structures of the different localities may, indeed, in a general way, be regarded as definitive, for like that in other structures it seemed to have been peculiar to the races, as well as to the localities. This material, to be sure, was generally that which the region most abundantly afforded, and so it was a matter of convenience, yet the Pueblos almost universally used adobe, while the Cliff Dwellers employed stone, the Mound Builders constructed their defenses of earth, and the red Indians their stockades of wood, and these materials may be regarded as distinctive of each race, and of the various localities.

2. When we come, however, to the Mound Builders alone, this test will not apply, and we have to look for further tests, and so we look to the form, as well as to the material. Now the peculiarities of form in the military structures are difficult to describe. This is the case even with historic races, but with the prehistoric it is still more.


There is an endless variety to these forms, and especially among the different geographical sections. This variety of the military architecture is noticeable even where there is great uniformity in the domestic. For instance, the Pueblos of Arizona had a fixed style of constructing their adobe houses, always making them two or three stories in height, and generally around a square, and each containing the estufa, or sweat house, somewhere in connection with the structure, but the Cliff Dwellers of the same locality constructed their defences in all conceivable shapes and forms, and in various places: the double-walled circular tower, the square stone structure, and the many-chambered dwelling being found perched on top of the lofty heights, or wedged in among the shelving rocks, or hid away in the side of the high-walled cañon, in an endless variety.

So, too, in the Ohio valley we find certain structures which have a stereotyped form, such as the square and the circle, or the sacred enclosures, or the truncated pyramid, and chunky yards, but these are always the structures, so far as we can learn,

which were used for religious or for civic gatherings, or for domestic purposes, but when we come to the exclusively defensive work, we find that each structure differs according to the locality, and there is not enough uniformity among them to tell the age or the race to which they belonged. At times, to be sure, there is a difference discernible between the defensive works of a locality, the massive walls of one structure, and deep ditches with their sharply defined angles and elaborate gate-ways, contrasting with the low, gently rounded earth walls and irregular circles of the other, showing that the Mound Builder and the Red Indian built their defenses on an entirely different scale and with different skill, and so we are furnished with a clue to judge as to the tribe or race which built the separate works.

3. So, too, we may judge from certain other indefinable marks what are the defenses of the Mound Builders. The characteristics always being the massiveness, the finish and the solidity with which they are erected, and so, in a general way, we may find some degree of uniformity among them. The resemblance between the works of the Mound Builders often furnishes also a test by which we may determine whether a military or defensive work belongs to them or some other people. This resemblance may not always be described, yet within certain limits the characteristics will distinguish the works from others.

We have already divided the works of the Mound Builders into four or five distinct classes: the Emblematic Mounds of Wisconsin, the Burial Mounds of Illinois, the Sacred Enclosures of Ohio, the Military Works of Tennessee, and the Truncated Pyramids of Georgia and the Gulf States. It will be noticed that the basis of classification in these cases was mainly the religious design apparent in the works, and that only in one case is the military mentioned. It should be said, too, that the classification would have been just as complete if the military had been left out, and the stone cists of Tennessee and Missouri had been chosen as the characteristic of the fourth class. Yet, it will be noticed that there is a certain resemblance between the military and the other works of each of these localities, so that we see the same division in the military architecture as in the other works, the military works of these different classes of Mound Builders, having correlation both to the other works of the several localities and to the geographical features of the country. This law of adaptation has not always been noticed, and hence some authors, who have written intelligently, have failed to discover the military system which existed in certain localities. For instance, the Emblematic Mound Builders of Wisconsin evidently had defenses as much



as did the Mound Builders of Ohio or of Georgia, yet very few have ever discovered the system on which these defenses were constructed.

The celebrated Dr. Lapham, who was the first to carry out any extensive observations among the emblematic mounds, though in a very brief and unsatisfactory manner, in his volume on the Antiquities of Wisconsin, has mentioned the fact, "that it has been a leading object to ascertain whether any order or system can be detected in the arrangement of the several works," but he maintains, in another place, that "the result shows very clearly that no order or system was adopted; indeed, it seems as if it were the intention of the builders to avoid all appearance of regularity." And, again, "in this connection," he says, "I must remark that whatever be the legitimate inference drawn from similar works and mounds, in other places, concerning the state of civilization attained by the Mound Builders, the evidence here goes to prove that they were an extremely barbarous people, in no respect superior to that of the savage tribes of Red Indians. * * The banks of rivers appear to have been their favorite locations, and in this respect they resemble the present Indians, who select sites commanding a view of the country, (so as to be able to detect the approach of an enemy) and near hunting and fishing grounds. They appear also to have had an eye to the beautiful as well as the useful in choosing their places of abode."

The nearest approach to a description of any military system given by him is where he mentions the fact "that it often occurs in a group of works, that one mound is erected on the highest position, from the top of which the whole may be seen." These may be called "observatories." But in no case does he allude to any extensive or connected military system, so that, upon the whole, our conclusion is, that notwithstanding his extensive observation, that he did not discover the fact that any military system existed among them. In another place, in speaking of the works near Waukesha, he says: "If we were not well acquainted with works of defense in Ohio and elsewhere, which show that the Mound Builders were considerably advanced in military arts, we might suppose that this was intended for a rude fortification, but we can regard it as merely accidental, and not designed for any such purpose." He thus shows that his conception of a military system was one where enclosures and walls existed, and where the means for defense were immediate and connected.

In fact, one would judge that he was measuring the military works of the Emblematic Mound Builders by the standard which the Mound Builders of Ohio had prescribed. Now this is the very point which we desire to make, that is, that the system of

defense among the Emblematic Mound Builders was peculiar to themselves, and that each locality presents, even in their military works, characteristics which may be nearly as distinctive as are those of the Mound Builders and other more distant works.

II. With these general remarks, then, we proceed to consider the military works of the Emblematic Mound Builders, and to study their characteristics.

1. And in the first place we maintain that they are peculiarly well adapted to the country in which they are placed. The State of Wisconsin, as is well known, is what may be called an open country. In common with other States of the vicinity, it is largely prairie. It is a state remarkably destitute of natural defences. The streams and lakes are lined with gently rising declivities, and the forests which cover them are often so scattering that they have received the common name of oak openings, since they can be easily traversed by persons on foot or on horseback, and the appearance is often more like that of ancient orchards than a forest. Frequently there are such openings that a view of distant hills can be gained, and the streams shimmer in the sunlight in many a spot along their course. In fact, the prospects are at times nearly as extensive in the wooded districts as in the prairie. Now if there were any extensive system of defense in this region, it must necessarily be very different from that which existed among bold bluffs and dense forests of other regions. There are localities where the steep and precipitous heights form natural defenses, and all that is needed is a simple wall across a tongue of land, or a circumvallation around the summit of some lofty bluff, to make them safe. In an open country, however, such a system would be impossible, and hence something which was better adapted to the nature of the country was necessary. The method employed by the later Indians of building stockades might possibly have answered for defence, but the evidences are that the Emblematic Mound Builders had no such defenses, for with them it was necessary that some system should be found which would be defensive, and yet not confine the population to limited and pent up places. The occupation of a more rugged territory might be continued in a time of war, and the people in the hour of attack could resort to the defenses without losing their usual liberty.

In such places the mode of life might be not unlike that which exists in border territory, where the forts serve as places of refuge, while the outlying country may still be occupied by a people engaged in peaceful pursuits.

Among the cliff dwellers of Arizona, the residence was probably the defense, and it is possible that among the Mound

Builders there were places where this was the case, as the defenses of Ohio and other States would admit of the same kind of life. But that a people can dwell peaceably in an open country, and be comparatively secure without any such system of fortification, is evident from the fact that the Pueblos to this day dwell in their many-storied houses, and have no other structures for their defense.

Now we would call attention to the fact that there is in this State of Wisconsin a system of defense which was admirably adapted to the surroundings, and which, for the methods of war prevalent among the rude or primitive people, was, perhaps, the best one possible. As we have studied the system, the wonder has been that the people who erected these works were so skillful in employing just that method of defense which would protect an open country, and yet not involve any change in the mode of life, or require the outlay of any more labor than could be bestowed.

The system of observatories or signal stations from which the approach of an enemy could be watched, and by which the people could be alarmed on the shortest notice, is the one which is indeed well adapted to a country like this, and that this was the prevalent mode of defense I think is evident.

2. The signal system among the Mound Builders has been observed by others, and in other places. Squier and Davis remarked many years ago that "there seems to have existed a system of defenses extending from the sources of the Alleghany and Susquehannah in New York, diagonally across the country, through central and northern Ohio, to the Wabash. Within this range the works which are regarded as defensive, are largest and most numerous"—though whether this would indicate that he was familiar with the system of signal stations is a question. Prof. J. T. Short thinks these works were the defenses of the Mound Builders against their enemies from the north, but the evidences are that the system of defense by signal stations overran these limits, and extended nearly all over the territory. That author speaks of the mounds which served as outlooks along the Mississippi and Ohio, and their tributaries, especially on the Muskingum, Scioto, Missouri, Wabash, Illinois, Kentucky, and lesser streams, and says "that a system of these works no doubt formerly existed on the Great Miami river, extending north of Dayton, O., southwest to the Ohio river, and connected with the great settlement on the site of Cincinnati, and with the high bluffs on the Kentucky shore. The monster mound at Miamisburgh, ten miles south of Dayton, formed part of the chain. This monster mound is 68 ft. high and 852 ft. in circumference, and may have served the double purpose of a signal station and

the base of a small edifice devoted to astronomical or religious purposes. There is little doubt that the Mound Builders, when apprehensive of danger from their enemies, employed a system of signal telegraphs, by which communication was had through means of the watch-fire, or torch. Only a few minutes were necessary, by means of such a projected system, in which to transmit a signal fifty or one hundred miles." It should be said that this custom of alarming a country by signal watch-fires was very common among the primitive people of all lands. The Scottish tribes or Gaels having retained it even to historic times.

In studying the works at Newark, Ohio, which, in some respects are the most remarkable in this country, the author of this paper has noticed that the choice of the very location of these works was on account of its natural defense by means of signal stations. The valley of two streams here makes a rich level plain, about eight miles across, around which are situated a series of high hills, or headlands, on many of which it is said that mounds are still observed. The stream flowing through this valley, and the rich soil, made it a favorable place for residence and the extensive works show how populous it once was, yet the most noticeable thing was that it was so abundantly secure from attack. These complicated works consist of squares and circles in various points of the plain, which were connected with parallel walls, and these with one another, and these in turn with the river, the whole forming an elaborate system of works which might have been used for either civil or religious purposes, but on every hill top surrounding, the mounds of observation lifted up their silent forms capable of giving, by the lighted fire, the alarm to the whole extensive settlement at a moment's warning.

In the celebrated works at Circleville, no such system of natural defense exists, but even there the author discovered that on a hill top, called Look-out Mountain, distant twelve miles down the valley of the Scioto, a signal mound existed, and the probability is, that the very mound which once lifted up its head 66 feet above the plain was, with its immense square and circle, also used as a corresponding observatory, which should command the distant prospect across the extensive valley to the mound beyond, as well as the nearer view of the works surrounding.

It has been observed also that in the State of Iowa, there is a series of mounds stretching along the valley of the Des Moines river which serves all the purpose of observatories, or signal stations, and the same circumstance has been noticed in other States. Mr. C. C. Jones mentions the fact that in the State of Georgia there are high pyramid mounds, which answer the pur-



pose of observatories, the commanding prospect from their summit giving rise at once to the idea that they were built for this purpose. Dr. Hill, of Ashland, Ohio, also maintains that even the forts of the ancient Eries were frequently made to answer to one another, a series of these, giving the control of the whole river valley.

Now, that such a system existed in this State cannot be doubted; we have studied the works and found the system very prevalent, even in the works at Aztalan, which are so well-known. There is a great resemblance in the topographical surroundings of this remarkable work, and those at Newark, Ohio, and the same system of defense is observable in both localities. Though the land is more broken immediately surrounding the works at Aztalan than at Newark, yet the same amphitheatre of hills skirt the horizon in the distance, and the same guarding of every approach by mounds of observation is apparent. The mounds in either corner of the great enclosure command the view of the bend of the river in either direction, both above and below, but they also respond to other mounds in the distance, which, in turn, command a view of other bends in the stream, so that by this most striking system of defense, no foe could approach by land or water without being observed.

The same fact has been observed at Beloit, near the State line. Here is a strip or tongue of high land situated between two rivers, the Rock River and the Turtle Creek, with their valleys on either side of it, and beyond the land gently rises until the horizon is skirted by a series of low hills, the outlines of which are clearly drawn against the sky. The land itself is mainly an open prairie, and from various points, especially on the bluff overlooking the valley of the river, the views are extensive and very beautiful. The city is situated at the point of the bluff, partly in the valley below and on the hill, and the college grounds are located just on the brow of the hill overlooking the valley of the river and the city itself.

From the college grounds the view is so attractive that drive-ways have been laid out across the campus, and it is the habit of the citizens to drive with their carriages to the points where views of the river and surrounding country can be gained. The locality is indeed one where the system of lookout mounds or observatories might be expected to have been established, and the number of mounds in every direction show how well the ancient inhabitants knew how to take advantage of the surroundings. The views so answer to one another from point to point of the winding river, and extend from bluff to bluff, or from the various points on the level plain to the surrounding hills in the distance, that every advantage is given for a most extensive

series of observations. Indeed the view at present takes in the villages and cities surrounding for six and twelve miles away, and the farm houses are visible along the river bluffs in every direction.

Thus the same phenomenon is presented here which was observed in so many other places, a location favorable for the placing of observatories in various directions is given, and we find that in these very localities the silent sentinels were placed, and are still remaining in the lookout mounds, which rise upon every bluff and hill, and answer so to one another across the valleys.

The same system has been not only observed in this locality but at Rockton, four miles below, where the emblematic mounds are located, at the end of the various bends of the river, or at the junction of the two streams, the Rock and the Pecatonica rivers, also at Lake Koshkonong, where the observatories are placed on the heights in various directions, and at the very point where the outlet gives a view of the river below and of the lake above, and at many other places.

Now it may seem strange that these points were so occupied by the Mound Builders, but they were a wonderfully observing people. The choicest localities were in all cases selected by them as the sites for their villages, and as the places where they erected their mysterious structures. Their works are scattered over all the land, often in just those places which the white man regards as best, and the most charming spots are localities where their mounds are discovered, but the prominent points all over the land are especially marked by their observatories or their signal towers, making an almost universal network of lookout mounds or sentinel points.

We arrive, then, at the conclusion that in this region the method of defense was one which depended almost entirely on the location of signal stations, and that the system of defense by enclosures and connected walls, or by fortified places, did not, with very few exceptions, exist in this State. Correlated to the geographical surroundings, it was one which was peculiarly well adapted to the circumstances. Their military architecture, then, if architecture it can be called, consisted in thus studying the topography of the land, and locating their mounds of observation on every point, and so defending themselves by the system of alarm rather than of defense.

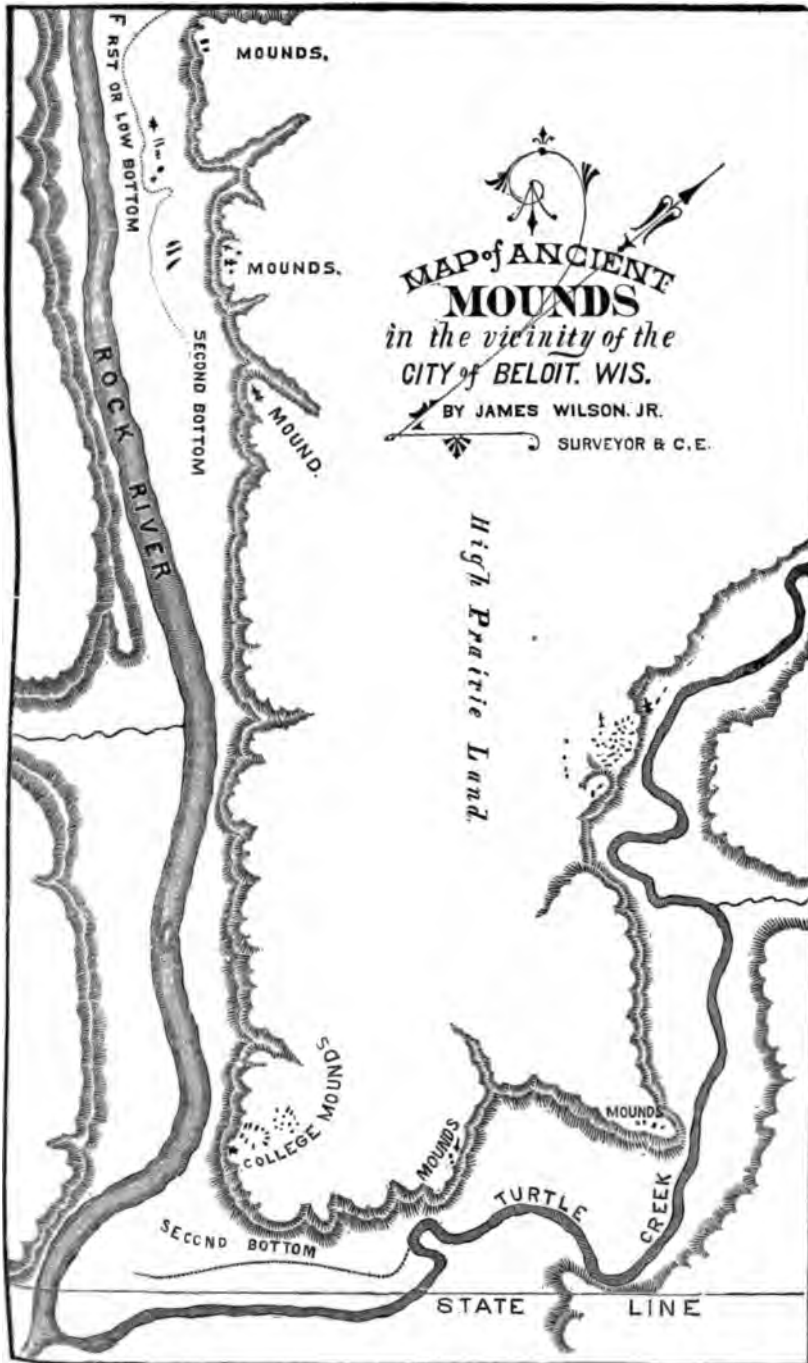
3. There is, however, one other feature in the military or defensive system of the State, to which we would call especial attention, and that is the combination of the religious element with this one of sentinel stations. We take the ground that all the works of the Mound Builders were correlated to their internal organism, or modes of life, as well as to their geographical sur-

roundings, and that the various works indicate the respective systems of organization which existed, and thus the civil and religious customs of the people can be discovered. We have already shown that the Emblematic Mound Builders had among themselves a system of tribal organization, which exhibited itself in certain tribal signs or totems, and that the Emblematic Mounds are, in part, at least, the embodiment of these totems. The point at which we now arrive is, that some of these totems were regarded as guardian divinities, and that the mounds express this fact in their form and arrangement, and it is to this point that we call especial attention. The title, military architecture, hardly expresses this thought, and yet it is to the fact that so peculiar a charm was imparted to the shape and form of a mound which embodied the totem or ruling spirit of the separate tribes, that it in itself constituted a system of defense. This thought has been impressed upon the author after long and faithful study of certain works, and, therefore, these works are taken as an illustration. The works at Beloit have already been described in a general way, and we need not again speak of the locality, or even dwell upon their being defensive in their nature. But what we want to state is that this system of observatories is here most clearly combined with the emblematic characters, and hence it is probable that the significance is to be discovered in the form, as well as in the location of these mounds. So far from being accidental, and merely the result of a freak of fancy, we have discovered that every spot was studied and every form was designed, and that a most striking system of defense by totem signs, as well as by observatories, are here discovered.

One thing is remarkable, that an unusual number of the emblematic forms are found in this vicinity. Although the groups are not so large, or the effigies so varied as in many other places, as, for instance, by the side of some of the lakes, yet the groups are nearer together and answer to one another with shorter views or prospects. In fact, the locality requires this. While the views are so extensive, and command so wide a region, yet the nearer view of bluff and valley would require that nearly every bend and bluff should be surmounted by its observatory or sentinel. Thus the scene is haunted by the presence of these strange shapes, and though so beautiful and peaceful, it can hardly hide from us the evidence that the region was once inhabited by a strangely-superstitious people, and that they expected their divinities to protect their homes.

It has already been stated that in this particular locality the turtle is the tribal sign, or totem, and that, with all the variety of the mounds in the vicinity, this typical form was always

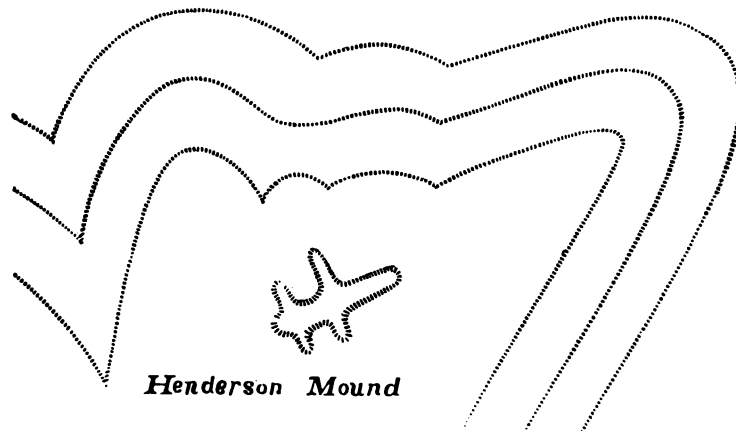




present. Whatever other animal forms might be found, this was always located in the most prominent point, and often in an isolated position remote from the rest.

Though certain other effigies are often repeated, none is always present except the turtle. But the point which we make is that this turtle effigy, being always present, and always occupying not only a prominent point, but always a point of outlook, or observatory, gives rise to the idea that the turtle was the guardian divinity of this region, and that they expected their divinities to protect their homes.

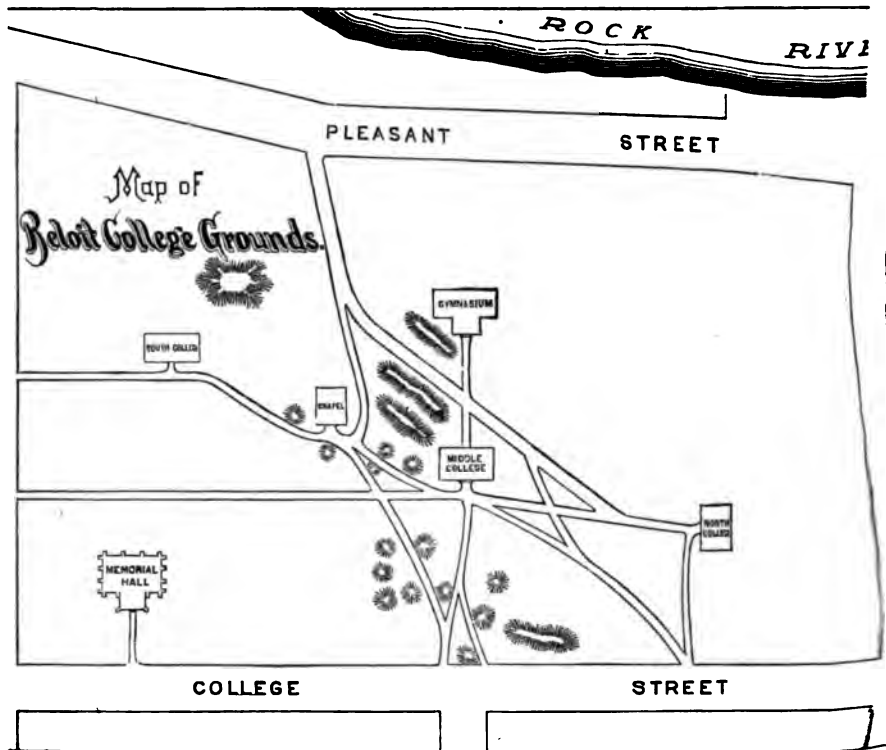
As we go from group to group we find this emphatically true. In looking over the map which has been drawn, it will be noticed that there are at least five different groups, situated at various points along the bluffs which line both the streams. It will be noticed, too, that at times two separate clusters appear, and that those on the bluff overlook a cluster in the valley, and at the same time command a view of different bends of the river both above and below. It will be noticed, too, that this position, thus separate and above the others, give to the mounds upon the hill the air of command as well as of defense, and that the long, tapering mounds of the groups either occupy a position at either extremity of the group, or are pointed toward the hill, as if to form a wall of approach to those upon the summit.



Now it is remarkable that the mound which always occupies the position of a sentinel upon the highest point, and which, at the same time, is isolated from the rest, as if a tribal divinity, or chief, or one in command, is always a turtle mound. This is the case with the group which lies farthest north on the map, a group which may be called, from the name of the owner,



Peck's Mounds. Here there are three clusters of mounds—two clusters on the hill in positions commanding views up and down the river, and another consisting of two series of tapering mounds, and a number of other mounds, among which are the buffalo, the hawk, and a composite mound in the valley below. Now what is remarkable is that the clusters upon the hill are both composed exclusively of turtle mounds, and that these turtles are in a most commanding position, both as regards the group below, and the surrounding region. The same is true also of the solitary mound which marks the spur of land which shoots out between two gorges in the bluff, and so forms a plat-



form for the construction of the mound. The shape which so presents its outlines on this spot, making a most striking ornament to the landscape, is the turtle, this time a monster shape.

So, too, of the group which is designated by the name of "Dugway Mounds," stretched only a mile from this city north. This group overlooks a valley opposite, and at the same time commands a view of a bend in the river to the south, but it will be noticed that the prominent form is here—the turtle—and again is the principal mound, though this time situated closely to the others, and surrounded by the group, rather commanding at a distance.

Again, as we examine the group situated on the college grounds, we find that while the group itself is composed entirely of common, oval mounds, without emblematic form, yet that the mound which stands separated from the rest, situated on the brow of the bluff and overlooking the valley below and the bend of the river, is also a turtle mound, and that its position is again the isolated one of a tribal divinity, and the commanding one of a signal outlook.

It will be noticed that this turtle mound is isolated from the group, while tapering mounds limit the group both east and west. It is said also that there were formerly mounds below the bluff, near the water's edge, which answered to the opening in the parallel lines of the tapering mounds, and that these also were in the turtle shape.

A mile and a half south of this group, across the valley of the Turtle Creek, and below the State line, there is a gravel knoll which forms an isolated spot from which an extensive view is gained. On this knoll three mounds are found, but the mound which is most prominent, and which answers to the one on the college bluff, is also a turtle, accompanied by two birds in line.

Again, if we turn to the east and wander along the bluff, we find that the group which once stood near the old stone mill, but which has now nearly disappeared, responds to one just opposite, on the bluff near the state line, a half mile to the east, but the mound which stands out the most prominent is the Turtle. So, too, in this group on the state line, we find that the mound which stands on the very brow of the bluff, in a commanding position, is also a turtle, and on looking at the topography we find that this mound commands a view of the group on the gravel knoll down the valley a mile and a half to the west, the turtle here answering to the turtle there. If we turn east again, and wander along the brow of the bluff, we find a series of mounds of various shapes and sizes, each one with its own particular view, or prospect, but the mound which stands out on the very extreme point of land, and which best commands a view of the valley in both directions, and of the opposite bluffs, is a monster turtle, once standing out in bold outline on the summit, but now destroyed by the railroad cut which has penetrated the hill.

If we turn back and follow north and west, and approach the group which is called the Turtle Bluff Mounds, we find among a large and varied mass of animal mounds, the turtle again in the most prominent position, and at just the point where the valley is guarded, and where, too, the outlook is across the stream and up a valley directly opposite. In this case the removal of the mound only a few feet would destroy the prospect, but, located at the precise spot, the beacon lighted on its summit might be seen both east and north, and with not even a tree or shrub to prevent the glare of its light being seen for many a mile either way.

The isolation of this mound among so large a group, where animals of every conceivable form and kind, and its location in just this spot, is one of the most singular points in all the work of the Mound Builders' designing, and in itself is suggestive.

of a divinity regning supremely, and above all the surrounding region, while herds and flocks of other creatures watch its position on every side.

Among this group there are other animals more expressive in their attitude and more striking in their forms. Another turtle is also located on the terrace below, over the water's edge, but none so suggests the thought of the guardian spirit as does this. Another group also, a mile or more toward the north and east, up the valley, contains other turtles in like prominent positions, and with a similar outlook, in fact responding to this group at this point.


Thus do we find that the different groups not only responded to one another, but that the mounds that commanded the best view, and were evidently the signal mounds of all the group, are here the turtle mounds, the very mounds which represented the clan or tribal totem of this vicinity.

Whether this same fact exists elsewhere we cannot say, but it is a point worthy of consideration, for if it shall prove true that the sentinel mounds are generally the tribe emblem, then we may conclude that this was one element in their system of defense, the tribal emblem being incorporated into their military architecture as a kind of religious symbol, which had a charm and a protective power in its very form and shape.

This is, indeed, an important point to decide, for if tutelar divinities and tribal emblems are thus represented in these structural mounds, then there is far more significance to the system than we have supposed.

The military architecture of the Emblematic Mound Builders will be so far distinctive, having the same elements that their social organization possessed, but destitute of the more perfected forms of defense which are found among the Mound Builders' works elsewhere.

The importance of the point does not, however, end here. There may be symbols among the prehistoric works of this country which have not been recognized heretofore, and these symbols may have a similar protective power. Whether we study the strange earthworks of the Ohio and Mississippi valley or the peculiar ornamentation of the palaces of Mexico, we find those forms which have hitherto baffled our study. The symbolic art may have, however, been embodied in its most primitive form here among these effigies and in Mexico be only a more complete development of the same mystic element, the religious conception of the strange people of America always being the chief feature of their character, and the religious symbol being the chief thing in their architecture.



Another reason why this element in the military and religious system of the Mound Builders is so important, is, that it also shows that the idea of tutelar divinities, so prevalent in Oriental and ancient races, is much more wide-spread than has heretofore been supposed. In fact, we may suppose the idea to be one of those natural conceptions which, at certain stages of society, always develop themselves, and so whether they embody themselves in the idols of Egypt, Assyria and India or in the mounds of America, they may be regarded as derived from an universal element in human nature.

The poetry of Homer has celebrated the prowess of the gods of Olympus and of Ilium; the inscriptions on the Pyramids have made known the symbols of gods of the Nile; the sacred books of the East have given hints of the national and guardian divinities of India and the orient; but there are poetical records in the mounds, hieroglyphics in these monuments, and sacred books in this land of the west which as clearly make known the same universal and wide-spread belief. Thus we find the architecture replete with instruction and suggestion, the Mound Builders' works being the monuments of the earliest stages of society, and the emblematic mounds especially being the tokens of the most primitive elements in human nature. At least we may regard the prevalence of the belief in the Tutelar Divinities in the lands of the east, and of the Emblematic Mounds in the west, as one of the most significant facts in all the range of either historic or prehistoric science.

A SHAKSPEARE AMONG THE INDIANS EARLY IN THE HISTORY OF THE WEST.

BY PROF. JAMES D. BUTLER, LL.D.

The first American edition of Shakspeare was printed in 1795. It was published in Philadelphia. There was probably no copy in the library of Harvard College, which was burnt January 24, 1764, but in the course of that year a copy was presented by an English benefactor, Thomas Hollis. Before his present arrived, however, a Shakspeare had turned up in the far West—much nearer to Chicago, if not to Omaha, than to Cambridge.

Its discovery I find related in a book so rare that the copy in the library of L. C. Draper, of Madison, Wis., is probably the


only perfect specimen now extant in America. It is a volume so rare that it was not espied till the end of thirty years watching. This work, "Miscellanies in Prose and Verse," by Captain Thomas Morris, London, 1791, relates the author's adventures when he had volunteered to risk himself among the savage tribes who had long been French allies, for persuading them to transfer their allegiance to the British, to whom France had yielded the country. He set out August 26, 1764, from Cedar Point, near the southwest corner of Lake Erie, eighteen leagues from Detroit, purposing to traverse the region that is now Indiana and Illinois, and on to New Orleans.

Five days after starting, he relates that at an Indian council of Pontiac's tribes, near the Swifts, as he calls the Maumee rapids, "an Indian, styled the Little Chief, presented me with a volume of Shakspeare—a singular gift from a savage. He, however, begged a little gunpowder in return, a commodity to him much more precious than diamonds." A week afterward that book saved Morris's life. His escort of French and Indians, having landed from the Maumee, were assailed by a whole tribe, who were lying in wait to kill the Englishman, and would have been overpowered had he been among them; but he says: "I had the good fortune to have stayed in the canoe reading the tragedy of Antony and Cleopatra in the volume which Little Chief had given me, and had pushed the canoe over to the other side of the river."

The mission of Morris proved a failure. After penetrating the country somewhat further, he was so maltreated and threatened that he fled for his life to Detroit, which he reached twenty-three days after he began his expedition. But before taking to flight, he tells us, "I left my money and baggage with one Capucin, a Frenchman." This leaving was in the camp of a tribe who soon made their submission to the British, and restored, as there is evidence, whatever Morris had left in their charge. So, while he lost his political end, he probably saved his Shakspeare.

That volume had perhaps come into the Indians' hands at Braddock's defeat, nine years before; for Morris obtained it near the same place and from the same tribe where he saw Braddock's white horse, which had been the spoil of one of them.

He viewed the book as a God-send, for he was a dramatic enthusiast, and twenty-seven years after he wrote that "no pleasure the world had ever afforded him—unless, perhaps, one, and that of an analogous nature—was equal to that of reading Shakspeare at a foot of a waterfall in the American desert."



It is hard to believe that he did not carry this finding over the Atlantic when he returned home with his regiment in 1768, or that he did not treasure it carefully and bequeath it as a rich legacy to his children.

He published six works between the years 1786 and 1802, in some of which there may be a further account of his Shakspearian treasure-trove. Unfortunately they are not to be consulted this side of the British museum. The original of this journal is deposited in the London record office. His printed copy was made to be presented to George III., whose sole recorded saying about Shakspeare is, "Was there ever snch stuff?" However much exultation over the Shakspearian find there may have been in the original manuscript, it would all have been struck out from a petition to the Georgian majesty on the same principle that Shakspeare never mentioned tobacco in dramas intended to please the monarch who had written a counterblast against it.

The farthest point inland reached by Captain Morris was the Miami village, near the site of the present city of Fort Wayne, and about one hundred miles from the mouth of the Maumee; indeed, where that river is formed by the confluence of the St. Mary and St. Joseph. Here he was stripped, bound to a stake, and would have been burned but for the magnanimity or caprice of one young brave. When rescued he did not at once take to flight. On the 11th of September, however, having assurance that if he delayed longer he must die, he started the same day for Detroit. The distance thither was reckoned one hundred and fifty miles by the shortest road.

The route lay along the north or left bank of the Maumee River for a long distance, but Morris, on the third day of his march, quitted the river and struck into the woods, partly in order not to pass through the village of the Ottawas, and partly in the hope of dodging Miamis who might be in pursuit of him. But before this change in his course he had met an Indian woman whom he ascertained to be the wife of the donor of his Shakspeare, though she took Morris for a Frenchman, as he both spoke French and was dressed like the Canadian French.

When Morris announced his resolution to leave the river, most of his escort of friendly Indians, so-called, deserted him, and only four left the beaten path with him. His journal, written in part by the light of his lamp, will be published in a forthcoming work by Dr. L. C. Draper, and will enable those familiar with the topography between the Maumee and Detroit to trace his course and to travel in his track.

Here are a few of his many notes:

Sept. 13th—Left the river at noon; from 12 to 2 o'clock traveled northeast, and then north till 5 o'clock.

Sept. 14th—Marched north-northeast, and at 3 P. M. reached swamps—dried up, as the season was dry.

Sept. 15th—Swamps up to 1.30 P. M., but no water.

Sept. 16th—Direction north, then east-northeast; rolling prairie; timber on every swell; Pottawattamie village.

Sept. 17th—Took upper road, and so found the river fordable, and arrived in Detroit.

According to the estimate of Capt. Morris, his wood-wanderings during these seven days added about ninety miles to his journey, and thus that each day's march amounted to four and thirty miles. His narrative, of perhaps the earliest white man's trail from Ft. Wayne to Detroit, will always be of interest to the myriads who now fill the region which he saw without inhabitants.

The Shakspearian finding I have described has a special charm for antiquarians, as an illustration that diamonds are found in dark places. Such instances of luck are doubly surprising when occurring in the New World, and that in its newer portion, as well as near our own field of observation. They stimulate and encourage research; showing that the unexpected has happened, they quicken faith that they will happen again, and that the best bonanzas may not be yet unearthed.

The Oriental Department.

THE PYRAMIDAL TEMPLE.

BY REV. O. D. MILLER.

A critical treatment of the subject, which regards the *origin of the Temple*, would require the space of a series of articles; but it will be an important contribution to this subject if we trace the *origin of the Pyramidal Temple*, which we shall attempt to do in the present article. M. Fr. Lenormant's ability to seize upon and to state a great truth, oftentimes, where only those the most familiar with the subject would be able to appreciate it, was never better illustrated than in the subjoined statement:

"The Pyramidal Temple of the Chaldæans was as an imitation, an artificial reproduction of the mythical 'Mountain of the Assembly of the Stars,' the *Har-Moed* of Isaiah (xiv:13, 14), which sacred tradition placed in the north, and of which there is yet question in the sacred books of the Sabæans, or Mendæans."¹

To the foregoing, by way of further explanation, should be attached the following, also, by the same author:

"The conception of the holy and paradisiacal mountain, situated in the north, the column of the world, around which turned the seven stars of the Great Bear, assimilated to the seven planetary bodies; this conception, which is that of *Meru* (of the Hindus), of the *Hara-Berezaiti* (or Albordj, of the Persians,) and of the primitive *Aryâratha* ('chariot of the Aryas,' original Aryan name of Meru, or Albordj), has certainly been known and admitted by the Chaldæans. This is superabundantly proved by the admirable and poetic allusion of Isaiah (xiv:12-15) upon the fall of the ungodly king of Babylon," etc.²

As will be seen, the two extracts above refer to the same sacred locality, the *Har-Moed* of Isaiah, identified with the Meru or Albordj of Aryan tradition and with the Gan-Eden of Genesis.³ In effect, then, M. Lenormant holds that the Pyramidal Temple of the Chaldæans was an "imitation, an artificial

1. *Fragments Cosmogoniques de Berosé*, p. 358.

2. *Ibid.*, pp. 317, 318.

3. On the identity of the sacred mount of the Aryans with the *Har-Moed* and the "Gan-Eden of Genesis," see the article with this title in the third number of this journal, by the present writer.

reproduction" of the traditionary Mount of Paradise, identified, as shown in my previous article cited below, with the Diluvian Mountain. If the statement of our French Assyriologue is correct, this shows at once what was the origin of the Pyramidal Temple, and it is a matter of very great importance as well to the Biblical scholar as to Orientalists generally; for the Pyramid in stages was doubtless the most primitive form of the temple throughout all Asia, if not in Europe and Africa. But this statement by M. Lenormant, although we have not seen it called in question, is nevertheless contrary, as is most probable, to the impressions of the majority of cuneiform scholars as well as other critics. It is a point, in fact, which has not been discussed heretofore, so far as we are aware, although it demands the most careful consideration. Our first object, in the present article, will be to make good Prof. Lenormant's position here, relying chiefly for proof upon the cuneiform inscriptions.

As stated by our author, and as admitted by all Assyriologists, the two typical and most ancient structures of the pyramidal class in the valley of the Euphrates and Tigris were those at Babylon and Borsippa. All the other pyramids of the country appertain strictly to historical times, those of the earliest known period being built under the reign of Lik-Bagas or Uruk, the most ancient monarch of Chaldæa, so far as known. All these temples, except the one at Babylon, the other at Borsippa, before mentioned, are attributed to kings whose names and eras are known to the inscriptions. They all appertain, then, to the historical period. Not so with the temples at Babylon and Borsippa. They belong to the pre-historic epoch. They are never attributed to any known monarch. On the contrary, they are attributed indefinitely "to the king very ancient," or "to the most ancient king," such being the ordinary mode of reference to them. The pyramid at Borsippa, in fact, according to the general opinion of Assyriologists, was none other than the original "Tower of Babel." Thus there can be no doubt that these two temple structures were founded by the first civilizers of Babylonia, by the original emigrants who journeyed from the Diluvian Mount in the east to the plains of Shinar, according to the Mosaic history.

Now, in the inscriptions of Nabuchadnezzar, certain noteworthy phrases are applied to these two temples which merit a careful investigation. Referring to the pyramid at Babylon we have the expression: *Bit te (min) an-ki zikurat bab-il-ki*, "The Temple of the foundation of *An-ki*, the Tower of Babylon."⁴ That applied to the pyramid at Borsippa reads as follows: *Bit urme 7 an-ki zikurat bara-sip-ki*, "The Temple of

4. 1st Rawl. Pl. 51, Col. 1, l. 23.

the Seven Lights of *An-ki*, the Tower of Borsippa."⁵ Thus the tower at Babylon is here conceived as the "Foundation of *An-ki*," while that at Borsippa is called the "Seven Lights of *An-ki*." The main point of inquiry, in both phrases, is the exact meaning to be attached to the term *An-ki*, whose true Assyrian reading is a matter of doubt, it being variously read and interpreted by different Assyriologists. Mr. Norris would attach to *An-ki* the sense of "the astronomical earth, distinguished from the geographical earth (*ki*) by the determinative (*an*)."⁶ Others render this term by the Assyrian *samu*, "heaven," which is, perhaps, not wholly incorrect. But Mr. Norris' view appears to me the nearest correct, for literally the two elements *an + ki* are heaven + earth, "the heavenly" or "celestial earth." But the first element, *an*, may be taken here as determinative of divinity; in which case the meaning would be the "goddess Earth," or the "Earth-goddess." However, we incline strongly to the literal sense before given, "the celestial earth," and this especially since we are able to give an account of the expression thus construed. It is, in fact, the exact equivalent of the Sanskrit phrase, *svarga-bumi*, "the celestial earth," which was habitually applied to the sacred mountain, *Meru*, traditional first abode of man.⁷ The "celestial earth" is a phrase applied by Dr. Faber, also, following the classic authors, to the "Infernal Eden," or the Paradise transferred to the under world.⁸ The term *An-ki*, in the Accadian, whatever may be its true Assyrian reading, occurs very frequently in the texts, of which we shall cite soon several examples. But in order to fix the reference of the Sanskrit phrase to the traditionary Mount of Paradise, we quote here the language of M. Obry, just cited:

"Meru and its four supporting mountains elevate themselves in the central continent, or *madhya-dwipa*, very high, to which they give the names of *Svarga-bumi*, 'Celestial Earth' . . . and more generally those of *Na-varcha*, *Na-vrita* . . . section or province of *Na*, daughter and wife of Manu, considered as the mother of the human race."⁹

Thus the "celestial earth," or "province of *Na*," is expressly connected with Meru, and *Na* herself is identified with the mother of Eden as wife of Manu, the first man. Now, the summit of Meru was thought to penetrate the heaven precisely in the region of the Pole-Star, called Su-Meru by the Hindus. These data will help to fix the primary reference of the Accadian *An-ki*, the "astronomical" or "celestial earth," to this traditionary Mount of the Northeast.

5. Ibid, l. 27.

6. Assyrian Dictionary, III, p. 939.

7. For the application of *Svarga-bumi* to Meru, see Obry, du Berceau de l'Espece Humaine, pp. 22, 174.

8. Origin of Pagan Idolatry, I, pp. 13, 21, etc.

9. Du Berceau, p. 22.

Prof. Sayce states the fact, quite important for us here, that the Accadian phrase *Ditar-Anki*, "the Judge of *Anki*," which he reads *Dayan Same*, in the Assyrian, is a designation of the Pole-Star.¹⁰ Thus, if *Ditar-Anki* denotes the North Celestial Pole, or Pole-Star, then the term *An-ki* itself must refer to the region centering in the Pole, which region was supposed to be penetrated by the summit of the Paradisiacal Mount. The term *Ditar*, "judge," has no locative sense; it is the word *Anki* here that fixes the locality of the entire phrase *Ditar-Anki*, identifying it with the *Svarga-Bumi*, or "Celestial Earth," of the Hindus.

Closely connected with the phrase just explained is another cuneiform expression: *Es-bar An-ki*, "the Crown of *Anki*."¹¹ Prof. Sayce interprets it "the Crown of Heaven," giving to *An-ki* the Assyrian reading *Samu*, "heaven." As we now see, however, this is not the heaven in general, but the particular celestial region centering in the Pole-Star and penetrated by the summit of the Paradisiacal Mount. The notion of the "Crown of Heaven," referring to this highest central region of the sky, otherwise denoted by the Assyrian *Qagqadu*, was familiar to the Babylonians. Rev. Wm. Houghton, in a critical paper on the cuneiform names of animals, has the following on the name of the constellation of the Great Bear:

"The Accadian expression means 'bear' + 'royal crownship' + 'making'; if the Assyrian word be read *eru-u*, it may denote 'an eagle.' I believe the scribe's mind is still dwelling on the constellation *Ursa Major* (Great Bear), and that 'the bear making its crownship,' has reference to the revolution of the Great Bear around the Polar Star."¹²

We see from these data that the "Crown of Heaven" in the Babylonian conception was the particular region around the North Celestial Pole, more especially designated by the phrase *Esbar-Anki*, "the Crown of *Anki*," or of "the Celestial Earth."

We must limit ourselves on the point before us to one more proof. We have a cuneiform tablet which opens with the following equations:

"1. *An-Il-anu*, 'the god *Anu*.'

"2. *An-Il-anatu*, 'the goddess *Anatu*.'

"3. *An-ki-Il-anu u Il-anatu*, 'the god *Anu* and the goddess *Anatu*' (the wife of *Anu*.)"¹³

In connection with the foregoing the subjoined remarks respecting *Anu*, by Mr. Geo. Smith, are quite important to be considered:

10. See *Trs. Soc. Bib. Arch. London*, iii, p. 206.

11. See *Sayce, Op. Cit. Cf. 2 Rawl. SS, l. 18.*

12. *Trs. Soc. Bib. Arch.* v, p. 334.

13. *2d Rawl. Pl. 68, No. 1, Obv. l. 1-3.*

"He represents the universe as the upper and lower regions, and when these were divided, the upper region or *heaven* was called *Anu*, while the lower region or *earth* was called *Anatu*, *Anatu* being the female principle or wife of *Anu*. Thus, when *Anu* represented height and heaven, *Anatu* represented depth and earth."¹⁴

To the foregoing, also, it is necessary to add the following from the same author:

"The heaven or region of the blessed was called *Samu*, and was divided into various sub-regions bearing different names, *the highest* being the 'Heaven of *Anu*,' the supreme celestial god."¹⁵

The facts prove, then, that *Anu* and his wife *Anatu* represented respectively the heaven and the earth; hence the expression *An-ki*, "heaven" + "earth," is the exact equivalent of the two names *Anu* and *Anatu*, applied to these two personages personifying the heaven and earth. But these are not the heaven and earth in general or in their entire extent. *Anu*, as male, represents the particular highest and central region of the sky, styled especially the "Heaven of *Anu*," as distinguished from the other celestial regions. Now, the highest central region of the sky was that around the Pole-Star, penetrated by the summit of the sacred Mount of Paradise. This was the "Crown of Heaven," the Assyrian *Qaqqadu*, Hebrew *Qadqod*, קֶדֶד

"Crown of the Head:" call to mind here the "Great Bear making its crownship," in revolving around the Pole; also the expression *Ešbar-Anki*, "the Crown of Anki." There can be no doubt, then, that the "Heaven of *Anu*," which this god represented, was the particular, limited, celestial region centering in the Pole-Star, and penetrated by the summit of the Paradisiacal Mount. Hence, if *Anu* was put especially for the *celestial* region centering in this mount, then *Anatu*, the wife of *Anu*, put for the earth, represented the particular, limited, *terrestrial* region centering in the same sacred mountain. These personages did not represent the entire heaven and earth, but the traditionary heaven and earth as known to the first men. They represented, in a word, the celestial and terrestrial paradises, supposed to be united by means of the Paradisiacal Mount itself. Since, as already shown, the expression *An-ki* is expressly equated to these two personages, it follows that *An-ki* likewise referred primarily to the same celestial and terrestrial regions as *Anu* and *Anatu*. It is obvious, from these data, that our interpretation of *An-ki* as "the Celestial Earth" is perfectly correct, and

14. Chaldean Genesis, pp. 54, 55.

15. Assyr. Discoveries, p. 221.

that it was primitively applied to the same sacred locality as the Sanskrit phrase *Scarga-Bumi*, "the Celestial Earth," referring to Meru, the reputed first abode of man.

Having now determined the actual meaning of the term *An-ki*, and proved its primitive application by the Babylonians to the sacred mount of tradition, situated in the far east and north, we return to the phrases applied by Nabuchadnezzar to the two pyramidal temples, the one at Babylon, called the "Foundation of *An-ki*," or of "the celestial earth;" the other at Borsippa, termed the "Seven Lights of *An-ki*," or "the celestial earth." It was shown by Dr. Bahr, long since, in his "Symbolism of the Mosaic Cultus," that nearly all the kingdoms of antiquity were regarded as "astronomical," "heavenly," or "celestial earths;" that is to say, they were terrestrial kingdoms modeled after the order and arrangement of the heavenly kingdom. They were imitations, so far as possible, of the heavens. But we now see, that which was unknown to Dr. Bahr, that these "celestial earths" were not, originally, modeled after the entire heavens. They were traditional inheritances from the primitive "celestial earth," which centered in the Paradisiacal Mount. The kingdom of Nimrod was of this character. The four cities, Babel, Erech, Accad and Calnah, constituting the basis of Nimrod's kingdom (Gen. x: 10), are now known to have formed a kind of mystical tetrarchy, and such was the case with the four cities of Assur (Gen. x: 11, 12). These were "celestial earths" whose fundamental idea was a traditional one, inherited from the Mount of Paradise, the original "celestial earth."

The full significance of the phrases before cited, applied to the pyramidal temples at Babylon and at Borsippa, will be now understood. The builders of these two primitive pyramids, the most ancient structures of the country, had but recently migrated from the Diluvian Mount in the east, identified uniformly with the Mount of Paradise, to the valley of the Euphrates, to the plains of Shinar. Their first work was to found "a celestial earth," in imitation of the primitive "celestial earth," from which they had just journeyed. The Pyramid at Babylon was the "Foundation of the celestial earth" (or *An-ki*). The tower at Borsippa was "the seven lights of the celestial earth" (or *An-ki*). These seven lights were no other, primitively, than the seven stars of the Great Bear, called the "Great Dipper;" although, as stated by M. Lenormant, these seven stars had been "assimilated to the seven planetary bodies." The tower of Borsippa, as completed by Nabuchadnezzar, after its original design, consisted of seven stages, superimposed upon each other, retreating in size to the upper stage. These seven stages were colored in a manner to represent the seven planets. Upon the upper

stage was the sanctuary, of a cubical form, dedicated to the God *Nabu*, the Babylonian Mercury. All these facts respecting this structure are familiar to Assyriologists. The seven stages, as it appears, represented the ascending series of the seven planetary spheres, like the seven stars of the Great Bear; this series terminating with the sanctuary, or eighth stage, which represented the Polar region, the eighth in relation to the seven stars of the Great Dipper. This was the heaven *par excellence*, identical with the "Heaven of Anu." The tower of Borsippa, as stated by Nebuchadnezzar, was not completed to the top by its original builders; but was left, for some reason, in an unfinished state, the same as the "tower of Babel" in the Mosaic accounts.

We have seen that the Sacred Mount of the north-east was supposed to unite the heaven and earth, like a vast column or pyramid; this mountain rising in immense terraces till its summit reached the heaven. An exact imitation of such a mountain would be a pyramid in stages, on the top of which was the sanctuary, representing the celestial region centering in the pole, and penetrated by the mountain summit. These stages, seven in number, represented, as before remarked, the seven stars of the Great Bear, while the sanctuary, forming the eighth stage, represented the region of the pole-star, the eighth in relation to the other seven stars. Note, here, how exactly these data realize the expressions applied by Moses to the Tower of Babel, 'whose top should reach the heaven,' or, as otherwise properly rendered, 'whose top should represent the heaven;' just as the sanctuary, or eighth stage of the tower at Borsippa was made to represent the heaven centering in the pole. As the Sacred Mount united the heaven and earth, so the top of the Tower of Babel, the earliest attempted imitation of it in the Euphrates valley, was intended to reach the heaven, or to symbolize it.

The facts that have been now presented fully justify the statement, as it seems to me, which was cited from Prof. Lenormant, at the opening of the present article, namely: "The pyramidal temple of the Chaldæans was as an imitation, an artificial reproduction of the mythical 'Mountain of the Assembly of the Stars,' the *Har-Moed* of Isaiah (xiv: 13, 14)," this being identified with the Paradisiacal Mount of the north-east. This statement being proved correct by the facts before us, there remains no doubt as to the origin of the Pyramidal Temple—*It was designed as an artificial reproduction of the traditional Mount of Paradise!*

The really primitive character of the pyramidal temple, in Asia, and in other parts of the world, admits of no question. The most ancient pyramid in the Nile valley, as now held by

Egyptologists, was the great pyramid at *Sakkara*, which was constructed in brick, and in stages, precisely like those of Babylon and Borsippa.¹⁶ This shows that the Hamites of Egypt and the Cushites of Babylon had inherited their primitive notions of the temple from the same original source, namely, as an imitation of the traditional Mount of Paradise. The pre-historical civilizations of Central and South America, also, constructed their temples in the pyramidal form, and in stages. This fact, with others which we have not the space to introduce here, indicates that these peoples had derived their notion of the temple from Asia, and ultimately from the great Asiatic Olympus. Finally, the Pagodas of India, China, and other countries of the far east, as shown by Dr. Bahr, long since, were only a later and modified form of the pyramidal temples. It is obvious, then, to what wide extent the conceptions centering originally in the Paradisiacal Mount, had been carried by the races on dispersing from their common home, and embodied in their sacred structures.

Although of a different form, it can be made quite apparent, I think, that the Hebrew tabernacle and temple were designed to embody the same traditionary ideas as the pyramidal temple of the Babylonians; these ideas, however, in their original integrity, and stripped of their later and idolatrous accretions. But to present this part of the subject adequately, would extend the present article to a much greater length. We can only, in the present connection, submit a few facts tending to the conclusion just stated. The Hebrew name of Divinity, *El*, the Babylonian *Il* or *Ilu*, was common to nearly all the Semitic races, and thus appertained, as Prof. Max Müller has shown, to the period before the separation of these races. In Isaiah's allusion to the *Har-Moed*, *El*, and the "stars of El," are definitely associated with this mountain, whose identity with Meru, or the traditionary Mount of Paradise, is admitted by many critics, and admits, in fact, of but little doubt.¹⁷ These "stars of El," then, can be no other than the seven stars of the chariot, or of the Great Bear, uniformly associated with Meru or Albordj, and are the same as the "Seven Lights of *An-ki*," of the Borsippa pyramid. The actual connection, therefore, primitively, of *El* and of *Elyon* (Is. xiv: 14), "The Highest," with this Sacred Mount of the North-East, seems to be well established.

But it is probable that even the name *El*, as a title of divinity, took its origin from this Asiatic Olympus. It seems to be

16. On this point see Lenormant's *Fragments de Berosé*, p. 363. Cf. Mariette's *Aperçu de l'Histoire d'Égypte*, Paris Edit., p. 76.

17. On this point, besides M. Lenormant, already cited, see Wilford, *Asiat. Researches*, vi, p. 448; viii, p. 359, sq. Gesenius, *Comm. Is.*, ii, p. 316, sq.; and various others.

well understood among Hebrew scholars that the name *El*, meaning the "Strong One," is derived from *Ool*, אֵל, related to *Eel*, אֵל, "to turn, to roll," etc. Hence, the meaning of "Strong One" has proceeded from the notion of "to roll, to turn," since, as Dr. Fürst holds, "*the notion of rolling merges into that of strength.*" But it is impossible that the idea of *rolling*, without the aid of *special circumstances*, should ever suggest that of infinite power, attributed to *El*, as name of the Almighty. If, however, we connect this idea of rolling with the expression of Isaiah, "the stars of *El*," understood of the seven stars of the chariot rolling around the Pole, the double notion of *turning*, *rolling* and of *strength*, *power*, will at once strike the mind. The revolution of the immense mass of the starry heavens upon a single, fixed point in the northern hemisphere, would naturally arrest the attention of the first men, and they would instinctively concentrate around that fixed point the vast assemblage of force sustaining this mass and causing it to revolve. Thus *El* was the "Strong One" who upheld the vast fabric of the heavens, causing them to turn upon their everlasting pivots. The rolling motion of "the stars of *El*" around the Pole had given rise to the notion of Infinite Power, attached to this name of Deity.

All goes to show, then, that this ancient Semitic title of divinity was originally associated with the traditionary Mount of Paradise. This one fact will lend significance to certain phrases of the Hebrew text, connecting the tabernacle and temple with the Sacred Mount of Semitic and Aryan tradition. We have, first, the *Har-Moed*, הַר-מוֹעֵד, or "Mount of the Assembly," to which corresponded, evidently as artificial reproduction, the *Beth-Moed*, בֵּית-מוֹעֵד, or "House of the Assembly," and the *Ohel-Moed*, אֹהֶל-מוֹעֵד, or "Tent of the Assembly," referring to the tabernacle of the congregation. Then there is the *Har-El*, הַר-אֵל, the "Mount of El," of which a miniature imitation was the *Beth-El*, בֵּית-אֵל, the "House of El," applied equally to the sanctuary or to the stone set up by Jacob. Finally, we have the term *Ari-El*, אֲרִי-אֵל, the "Hearth of El," applied to the altar of the temple at Jerusalem, together, in fact, with *Har-El*. The term *Ari-El* shows that *El* was primitively the hearth-divinity of the great Semitic race. All these expressions tend to connect the Hebrew tabernacle and temple, especially through the divine name *El*, with the great Olympus of Asia, identified with the Mount of Paradise, and they tend also to show that Moses had, like the other Semitic races, incorporated these primitive traditionary ideas in the tabernacle, restoring them to their original integrity and purity.

The two chief apartments of the tabernacle, as Dr. Bahr long since held, symbolized the heaven and earth. But these were not the heaven and earth in general, as this writer supposed; they were the traditionary heaven and earth associated with the Sacred Mount, the first home of man; they were, in truth, the celestial and terrestrial paradises, united by this mountain. The golden candlestick, with its seven lamps, calls forcibly to mind the "Seven Lights of *Anki*," of the Borsippa Pyramid, referring to the seven stars, which we identify with the "Stars of *El*." Thus, Moses aimed to restore to their primitive integrity the traditionary ideas originally centering in the Paradisiacal Mount.

Of the *two fundamental ideas* involved in the primitive notion of the temple, we have attempted to trace the origin of *one* in the present article. The other had reference to the *hearth* and the *hearth-divinity*. Both, as we have seen, were associated with the ancient Semitic name of Deity, the Hebrew *El*. To treat adequately this second idea would require the space of a separate article. Suffice it, here, that the primitive hearth-divinity of a race become, uniformly, its national divinity when it had attained to a nationality. Thus *Ilu* was the supreme divinity of the Babylonians, and, under the name *El*, was identified with *Yahveh*, or *Jehoveh*, the national divinity of the Hebrews.

As will be seen, there is much in the present article that tends directly to confirm the theory of the previous one on the "Gan-Eden of Genesis," in the third number of this journal.

ST. PAUL AT PUTEOLI.

BY THE REV. ELIAS NASON.

PUTEOLI, which now bears the name of Pozzuoli, meaning "wells of water," is situated on a promontory about seven miles southwest of Naples, and is remarkable, not only for the scenic beauty of its environs, but also for its ruins and the associations they awaken. It has now about 10,000 people, most of whom indulge in *dolce far niente*, and some ten or a dozen fishing smacks sleep lazily in the bay. The dwelling houses, built of tufa, three or four stories high and covered with stucco, have a comfortless appearance; the churches, of which the Duomo, once a heathen temple, dedicated to Augustus, and now containing the tomb of the composer Pergolese, is the most conspicuous, make a somewhat better show. From the tower of the Duomo which crowns the summit of the promontory, a most

charming prospect is obtained. Looking easterly, the curving shore of the magnificent Bay of Naples, the vine-clad hills of Pausilipo, the spires of Naples, the summit of Mt. Vesuvius (ever smoking) still beyond, and the sharply outlined island of Capri strike the eye; on the south the bay spreads out into the open sea; on the west the view is enlivened by the fantastic headland of Miseno, and on the north by many classic eminences of Campania. The whole of this region is volcanic. More than twenty extinct craters are pointed out in the vicinity of Pozzuoli, and Solfaterra (sulphur-land), between it and Pausilipo, is still active. Monte Nuovo, which rises some 500 feet from the Bay of Baiae, opposite the northwest section of the town, was thrown up by an eruption Sept. 29, 1538, partially filling up the celebrated lakes Lucrine and Averno; indeed this whole region is rifted, scarred and broken by the action of telluric fires.

It is also thickly strewn with ruins of ancient art. The most remarkable in Pozzuoli are the Duomo which has inscribed on its front: "CALPURNIUS. L. F. TEMPLUM. AUGUSTO. CUM. ORNAMENTIS. D. D.;" a vast amphitheatre which would contain 45,000 people; the Labyrinth of Dædalus; the ancient mole of the port, seventeen pillars of which are still visible; a statue of the Emperor Tiberius in the public square (piazza), and the Temple of Jupiter Serapis, erected in the sixth century of Rome, and which stands near the margin of the port. It was disinterred in 1750, then almost entire, and some of the red marble pillars, curiously incrustated with shells still remain, and thereby showing a change in the water-level of the Mediterranean Sea. Fragments of broken columns, pilasters, cornices, and entablatures frequently meet the eye. On one huge marble block, set into the wall of a granary, I read, "E questa una pietra caduta della gran, terma volgaramente nomata Tempio di Nettuno framutata da i secoli in povero vigneto ma le sue attere muraglie dureranno oltre la vita della giovane fabbriche a maraviglia de posterì."

The environs of Pozzuoli are celebrated in classic story. Here Virgil laid the scene of the 6th book of his *Æneid*. Here are to be seen the River Acheron, the River Styx, the *mare morto*, the Lake Avernus and the Elysian Fields. Here on the curving shore directly opposite, and in sight of the town, Cicero had his villa and wrote his *Quæstiones Academicæ*; here Caligula built his famous bridge across the Bay, and here the execrable Nero planned the death of his mother, Agrippina.

In the Augustan age, Naples was nothing; Baiae, now in ruins, was the Roman watering place, Puteoli the commercial centre. The Bay of Naples bore the name of Sinus Puteolanus, and Cicero named the city "Little Rome." In it and around it the rich Romans built their villas, baths, theatres, tombs and

temples, and here they spent a part or the whole of the year in "riotous living," in luxury and ease. Here the rich products of the Orient were for the most part landed, and here the troops on their expeditions for the mastership of the world embarked.

At this gay and busy mart St. Paul arrived, a prisoner under Julius, in the corn-ship *Castor and Pollux*, from Alexandria, in the spring of the year of our Lord 61. A south wind brought the vessel rapidly from Rhegium directly into the broad and beautiful Bay of Puteoli; and we can easily imagine what must have been the apostle's feelings as, on coming around Cape Minerva, he beheld the magnificent prospect opening out before him. On his right his eye must have rested on the symmetrical form of Capri, rising as a bastion from the sea, and then run along the rocky headlands of Sorento to the city of Pompeii and to Mt. Vesuvius, then covered with verdure and commanding the whole scene. The bold spurs of the Apennines must have arrested his attention; then as the vessel approached the shore, he must have noticed the charming little island Nisida, where Marcus Brutus laid his famous plot to murder Cæsar; and on the left the large islands of Tschia and Procida, and the picturesque point of Cape Miseno. Still nearing Puteoli, and entering its little harbor, temples, theatres, baths and palaces would meet his eye at every point along the shore, as well as from the vine-clad hills beyond. Baiae, the resort of fashion, and Mount Gaurus (Monte Barbaro) would be prominent in the view, and certainly no lovelier view had ever met his eye. On the arrival of a corn-ship from the East the people of Puteoli [Seneca, Ep. 77] used to crowd upon the wharves to give it welcome; and we may well imagine that when the *Castor and Pollux* cast her anchor near the temple of Serapis, and the weather-beaten prisoner stepped on shore, a throng of idlers gathered around him, eager to see his face and learn his crime. But there were "brethren" in the place. They, doubtless, greeted him most cordially, and they desired him "to tarry with them seven days." [Acts xxviii, 14.] This he did, and then went on by the Appian Way to Rome. How he spent those seven days, or who those "brethren" were, we do not know. There were at this period Jews and Christians living at Rome, and the relations of Puteoli with that city were so intimate that we may well infer that there were "brethren" also in that other city. We know that Pompeii, only about 20 miles distant, had some Christian residents prior to its ruin, A. D. 79; yet in point of size and trade and commerce it was far inferior to Puteoli. As well he might be, the centurion Julius was favorable to Paul, and perhaps permitted him, attended by a guard, to ramble through the city and to visit, if he chose, the market place, the temples and the public baths, constructed on

a scale of great magnificence. An active and observant man, as Paul, can see and accomplish many things in seven days. The apostle might have climbed the hill and surveyed the marble Temple of Augustus, walked along the hundred pillars of the famous Temple of Diana, through the hundred chambers of the Labyrinth, and beneath the porches of the majestic Temple of Serapis, in which the mysteries of the Egyptian priests were practiced, as at Isis in Pompeii. The name and works of Cicero were known to him, and he might, perhaps, have visited his villa on the opposite shore and the Avernian Lake near by. We may imagine this, but it is probable that much more of that precious week was spent in counseling the little band of "brethren" to stand true to Jesus; in recounting to them the perils of his voyage; in preaching to them and others in the market place on the Sabbath, and in forecasting what might be his fate on reaching the Imperial City. Christians in peril in a foreign land find their hearts drawn together closely, as by some celestial influence, and themes for conversation never fail.

To the classical scholar, to the antiquary, to the scientist, and to the lover of scenic beauty, Puteoli offers rare attractions. Virgil has described its curious caverns; Cicero has dwelt upon its pebbly shore; volcanic fires have rent its rocks, and so charming is its scenery that the people say: "A part of paradise has come down to us." But the feet of the great apostle to the Gentiles have pressed for seven days its soil; his lips have drunk its waters; his eyes have seen its monuments; his voice has proclaimed the tidings of salvation in its streets. To the Christian this invests it with profounder interest, and its name, enshrined in sacred writ, becomes immortal.

THE SITE OF CAPERNAUM.

BY REV. DR. S. GRAVES.

The desire to fix definitely, if possible, the site of ancient Capernaum, is very natural to Biblical scholars and to all Palestine travelers. We know where our Lord was born, where he spent his youth, where was his place of most delightful entertainment and resort; the places of betrayal and trial; where he was crucified and buried, and the place whence he ascended to heaven. If not these exact localities, we know in general the immediate vicinity where all these great memories cluster.

But *Capernaum*, where our Lord had his *home* during the years of his ministry among men; where most of his mighty

works were done, is yet in dispute. That it was situated on the western shores of the Sea of Galilee, and somewhere toward the northern end, is agreed.

There is now neither town nor hamlet between Tiberias and the mouth of the upper Jordan, a distance of some ten miles, save only the wretched huddle of huts, a dozen or so in number, which bears the name of *Mejdel*, supposed, with reason, I think, to mark the site and in part preserve the name of the ancient *Magdela*, the home of Mary Magdalene. This is on the southern edge of the plain of Genneseret. The cities of Bethsaida, Chorazin and Capernaum lay somewhere in this now desolate region, between *Mejdel* and the northern end of the sea.

There are two places, and I think but two, which divide between them the claim to be the Capernaum of scripture. The first of these is *Khan Minyeh*, which consists at present of a few uninhabitable ruins, and is situated on the very northern verge of Genneseret, as *Mejdel* is on the southern. This plain, which is one of the most sheltered and fertile and fairest in all Palestine, extends along the pebbly beach on the Galilee, which is now fringed by a luxuriant growth of oleanders, for the distance of some five or six miles, falling back to the highlands of Naph-tali, and forming the segment of a circle some two miles in its greatest depth—is what was known in the days of our Lord as *The Land of Genneseret*, and whose present solitudes were then swarming with a crowded and busy population, some of whom followed the sea and others the plow. A small stream of clear water, though not very sweet, ripples past the ruins and enters the sea, just below a patch of greensward, whose verdure it seems first to have created and then to keep guard of, and on which we pitched our tents for the night of November 5th, 1872.

This is the spot which many—notably Dr. Edward Robinson, in his admirable *Researches in Palestine*, have fixed upon as the true site of Capernaum, and no spot in all that vicinity could have been more beautiful, with the sea before it, the luxuriant plain at its right, and the majesty of the mountains behind it. The sea shoals finely off here, and our bath, on that sultry evening of our encampment, we shall none of us ever forget.

But after all that is brought forward to identify this as the ancient Capernaum, as weighty as Dr. Robinson's opinion surely is, and as much as I should delight to associate the memories of this spot with the earthly home of our Lord, I am far from being convinced of it.

More recent travelers, and especially Dr. Thomson, the author of *The Land and the Book*, who, after a residence of more than thirty years in Syria, is better fitted to judge than perhaps any other man, and more thorough excavations, notably those of

Lieut. Wilson, of the British Exploration Society, fix upon a locality some two miles north of here, whose present Arabic name is *Tel Hum*, pronounced *Hoom*.

This place is a claimant to the honor of being what yet remains of the Capernaum of the New Testament. Here we find more extensive ruins by far than at Khan Minyeh, covering an area of many acres, though now in a state of utter desolation. A single Arab we found there, who seemed to be lazily caring for a dozen or two of black goats that cropped the dry, coarse grasses and had their fold in the principal ruin of the place—just enough to make desolation doubly desolate.

There is no indentation of the shore here, and there never could have been much of a harbor. The ground rises slightly from the water's edge, and continues nearly level for a quarter of a mile, and then rolls upward into ridges which end in the highlands of Galilee. The city must have extended mostly along the shore.

The reasons to be given for making this the ancient Capernaum, are: 1. The *name* which the place at present bears, *Tel Hum*, though there seems little in this to suggest it. But these Arabic names are mightily tenacious in their root-meanings, under great apparent changes in form: *e. g.*, *Bethel* now bears the name of *Beiten*, which comes by dropping the *h*, and changing the final *l* to its kindred mute *n*. *Shiloh*, Seilun, in much the same way. Now Capernaum, when analyzed, is really *Kefr-na-Hum*. *Kefr* means village or town, and all meaning the village of Nahum. When the village or "city," as it was called, had disappeared and lay in ruin, *Kefr* would come in time to be changed for *Tel*, which means a *mound* or a *ruin*. Hence *Kefr-na-Hum* took the designation of *Tel-na-Hum*, and shortened, *Tel-Hum*.

So Thomson reasons, and this conclusion is supported by local traditions, which he has been at great pains to gather during his long residence and frequent visits to all the most important localities in Palestine.

Again, this site accords best with the notices which we have of Capernaum, especially in Josephus, who speaks particularly of the *Fountain of Capernaum*, as very copious, so that the Land of Genneseret was irrigated by it, which it is altogether improbable could have been done by the little spring at *Khan Minyeh*, known as *Ain e' Tiny*, which at present is far too small and too low-lying for such a purpose.

Now there is a fountain admirably answering to this description of Josephus, a little distance to the south of Tel Hun, which bears the name of *Tabiya*. It must have been, when the city was at its largest, but a short distance outside its limits, so near and

so important to the city as to have borne with propriety the designation given it by the Jewish historian, "The Fountain of Capernaum," and in other respects to answer his description. It is even now very large and abundant in excellent water, and continues so through the dry season. And that this is, moreover, the fountain anciently used to water the land of Genneseret, is evident from the remains of water-courses yet plainly traceable in cuttings through the rocks which separate this fountain from the plain below, the former being, I should judge, from fifteen to twenty feet above the level of the latter.

Again, the *nature* of the ruins here found, point in the same direction. A short time previous to my being there, Lieut. Wilson made some excavations which resulted in bringing to light a very interesting relic, and which will help, I believe, to settle the question now under discussion. The relic was a temple, or some public building of note. It was fresh from its covering when I was there, and I give the entry I made in my journal on the spot:

"Reached Tel Hum at 11 o'clock. Found the interesting ruins which Wilson refers to, and which he has partly uncovered. I examined with what care I could, during the two hours allotted us here, and beneath the scorching sun which was now in its strength, these and other remains. It has the appearance of being a small temple. I found eleven bases of columns *in situ*, and three others which had been displaced. These measured across the top nearly three feet. The columns were two feet four inches in diameter. The architecture which they had supported was three feet in height. The hewn stone slabs which formed the sides were twenty inches in thickness. The building was after the Corinthian order of architecture, and the workmanship very creditable considering the material, which is a coarse limestone of a light grayish color, but not fine enough to be called marble. It belonged, no doubt, to the Roman period. Wilson suggests that this may be the *synagogue* which the pious Roman had built, as recorded Luke vii.: 5: 'For he loved our nation, and hath built us a synagogue.' In the original, '*the synagogue*,' as though in that little city, it was a marked and well-known edifice."

The form and size of the building it would be difficult to fix, but the fragments as they were scattered about, covered, I should think, from a third to half an acre.

Other less conspicuous relics are to be found scattered over the space of half a mile along the sea-shore, and a quarter of a mile back from it.

For these and other reasons which I have not space to mention, it is now generally held that this was the home of our

Lord—"his own city"—during the three and a half years of his ministry among men. To have stood there, to have looked upon the back-lying hills, among which He so often retired to pray; to have looked upon these waters just as they appeared to Him; over which He so often sailed, and upon whose waves He once walked; to have trod this shore, and stepped, perchance, upon the same pebbles that his foot had pressed, is to enjoy a life-long benediction.

GRAND RAPIDS, MICH., August 18, 1890.

INFLUENCE OF THE ARYANS UPON THE ABORIGINAL SPEECH OF INDIA.

BY PROF. JOHN AVERY.

In a paper published in the second and third numbers of this journal, it was attempted to trace, so far as the facts were accessible, the kind and degree of influence which the aboriginal tribes of India have exerted upon the substance and form of the speech of their Aryan masters or neighbors. At the same time it was stated that the stronger influence had confessedly flowed in the opposite direction, from the cultured Aryans to the savage or imperfectly civilized aborigines.

It is our design, in this paper, to take up this reverse side of the picture and to estimate, as fairly as may be, the share which Aryan civilization has had in shaping and developing the ruder speech of the non-Aryan tribes.

We may lay down as a directing principle in our inquiries the axiomatic truth that, other things being equal, the influence of one race or nation upon the institutions of another will always be in proportion to the duration and degree of local, political, or social intimacy which has existed between them. It thus becomes our first duty to inquire into the geographical distribution of the aboriginal tribes, and to note the varying amount of intercourse which there has been between them and the Aryan immigrants. But we are obliged to confess that a complete answer to these questions involves the solution of some of the most obscure problems of Indian history. The mutations of the population of India extend over such vast periods of time, and are attested by so little of authentic history, that we have to content ourselves with such general facts and probable conjectures as can be derived from incidental notices in literature, from language and physical appearance, and from present ethnic conditions.

1. That northern India was occupied by a dark race on the arrival of the Aryans, is abundantly attested by the frequent allusions to it in the earliest Hindu writings. This race stood its ground for a long time, but was finally driven out, or reduced to servitude, and at length admitted as the fourth and lowest member of the Aryan state. Time and social conditions have now so far effaced race differences that in this part of India we cannot accurately draw the line between the pure Aryan and the non-Aryan population.

2. Passing southward from the alluvial plains of Hindustan, we come to the Vindhya and outlying ranges, which, though rising to no great height, are hardly accessible, by reason of their broken character and the dense vegetation which clothes them to their summits. Here we find a broad belt of aboriginal tribes stretching across the country from the Bay of Bengal to the Indian Ocean and along the western coast range. If we begin at the eastern end of this zone, the principal tribes are the Santhâls, on the eastern declivities of the Vindhya; the Paharias or Mâlers of the Râjmahâl hills; the Orâons of Chûtîâ Nâgpûr; south of these the Lurka-Kols or Ho; on the borders of Orissa, the Khonds and Saura. Tribes bearing the name Kôl are found as far north as the Sone river and as far south as Orissa. The Ceras and Kharvars are other members of this family in the same region. Passing westward we come to the numerous tribes of the Gônds, who occupy an extensive domain and have given one of the names by which Central India is known. The Kurkhus, who have sometimes been wrongly identified with the Gônds, are settled upon the Sâtpurâ range, between Asirgarh and the Pachmari hills. On either side of the western Vindhya and along the Arâvalî range, are found the Bhills. In the latter range are also found the Mîna and Mêra, tribes closely resembling the Bhills. The Kolis or Kulis have their home in Guzerat and at the foot of the western Ghats. The similarity of names suggests a connection between the Kolis and the eastern Kôls, but this has not yet been proved. Among the western Ghats are found several uncivilized tribes. Of these the Râmusis occupy the mountainous district from Punâ to Kolapur. The Neilgherry hills furnish a home for the Todas, the Kôtas, the Badagas and the Kurumburs. The Vâralis and Kâtodis are two degraded tribes living at the foot of the Ghats, between Dâmân and Punâ. All of the families or tribes which have been enumerated, with others of less note, stand at about the same level in the scale of humanity, and by reason of the inaccessible character of their country, especially on the eastern side, have had little intercourse with the cultivated peoples of northern or southern India.

3. The most numerous and, from every point of view, most interesting portion of the aboriginal population is the Dravidians, who occupy all the open region south of the Vindhya, with the exception of the Maratha country and Orissa. They also occupy the northern half of Ceylon, from which they have gradually pressed out the Singhalese. Those divisions of the Dravidian people which, according to our plan, concern us here, are: on the extreme south and southeast, the Tamils; north of these, the Telugus; northwest, the Canarese; along the Malabar coast, the Malayâlis; the Tuluvas farther north, and the Coorgs on the western Ghats, though the latter are on the border line between the civilized and savage tribes. This southern country early attracted Brahmanic colonists, and, so far as history informs us, the two peoples enjoyed constant and peaceful intercourse.

We have now divided the aboriginal population of India into three classes, not according to strict ethnic distinctions, but according to known or presumed exposure to Aryan influence, and, if the proposition with which we started was correct, we shall expect to find the change produced in the primitive speech by the superior people exhibiting a like threefold degree, of which the speech of northern India and of the central and western mountains will represent the two extremes. We now proceed to consider the facts. In the case of the northern aborigines they may be stated very briefly. The influence of the Sanskrit and the popular dialects springing from it upon their speech was powerfully destructive. Though we may be inclined to underestimate the mental force and culture of the primitive population, yet, at the best, it was far behind the conquering race in civilization. The result was that as fast as the aborigines came into peaceful relations with their conquerors they began to adopt their language.

This occurred first in the provinces earliest Brahmanized, and was longest delayed in Bengal and on the eastern and western coasts of the peninsula, which came latest into the hands of the Aryans, and upon the borders of which the primitive population still hovers. That the Aryans did not succeed in forcing their language upon the aborigines without loss to the purity of their own traditional usage, I showed in my former paper; but their victory was essentially complete, and so entirely did they wipe out the primitive speech that the scanty relics embedded in the Sanskrit and northern vernaculars are hardly enough to enable us to make out its original characteristics.

With the hill tribes, however, the case has been different. Exceedingly jealous of intrusion into their mountain homes, they have either fiercely repelled the Hindu invader, or hidden

from his sight in their inaccessible jungles. But the desire to exchange the products of their forests for some of the simple luxuries of civilization has occasionally brought them into contact with the people of the plains. In this way they have caught up some fragments of Aryan speech, with which they have enriched their own scantily furnished dialects, or, in a few favorable situations, have adopted in a corrupt form the language of their civilized neighbors. Of these tribes the Santhâls, living as they do upon the borders of Aryan communities, have been situated favorably to feel their influence, but so far as can be judged from the outline given by Dr. Hunter in his *Annals of Rural Bengal*, the Santhâli grammar is in no way indebted either to the Sanskrit or to the northern vernaculars. Its formations are strictly of the agglutinative order, and exhibit certain other peculiarities, such as the agreement of the verb with both subject and object, which are entirely foreign to the genius of the Indo-European tongues. Its sounds, for which it has no written signs, curiously accord almost perfectly with those of the Sanskrit; but, as I have elsewhere shown, some of these sounds were probably borrowed by the Aryans from the Kôl or Dravidian languages, to which they belong in common. It is in its vocabulary that the Santhâli shows Aryan influence. The lack of words to express abstract ideas, which it shares with all aboriginal tongues, it supplies by borrowing from its richer neighbors. But, if we can believe Dr. Hunter, these words are drawn, not from the modern Bengali or Hindi, but from some older representative of the same stock. It is even said that a few Prâkrit words are found in Santhâli and *vice versa*. If this be true, it points to an early contact between the two races. The Paharias show foreign influence according to situation. That portion of the people living in the northern and more mountainous district have retained both their primitive customs and their language, while the southern portion, whose land is more open and inviting for agriculture, have adopted the Hindu religion and speak Bengali. The language of the Orâons has borrowed all the numerals above four from the northern vernaculars, and has many Hindi words in its vocabulary, but in structure it is Dravidian, while the greater part of its stock of words is Kolarian. Most of the Kôl tribes have maintained their dialects intact, borrowing a few words from the northern vernaculars. Some in the north, however, have learned to use Aryan dialects. The Kharvars, an allied people, speak a corrupt Hindi about Râmgar, but farther south retain their own language. The same thing is true of the Ceras. The Sauras and Khonds still speak their native language, but the former have borrowed many words from the Oriya, and the

latter form their past participles, not by the suffixes *du*, *i* or *si*, which are common to the other members of the group, but by *á*, *sá* and *já*, as do some of the Aryan dialects. The Gônds, who speak a Dravidian language, have borrowed the Hindi relative *bo* instead of using the relative participle in its stead, as do the other members of the family. In some other unimportant respects does the structure of the Gôndi resemble the northern idioms, which may as plausibly be explained as independent developments as on the theory of borrowing. An exception is the formation of a passive, which is wanting in the other members of the family, by prefixing the past participle of the active voice to the substantive verb after the manner of some of the Aryan vernaculars. In its vocabulary this language is indebted to the Hindi for a few words of inferior importance. The Kurkus have also many words from the same source which have come in with the adoption of Hindu usages. Of the Bhills, the most isolated tribes seem to retain their own language, while other tribes which have come into closer contact with Mohammedans or Hindus have adopted their customs and a corrupted form of their speech. The Kôlis of Guzerat and the adjoining coast on the south have adopted the language of the Aryans, among whom they live. The Râmusis and Vâralis also speak Marathi. The rude tribes of the Neilgherries speak Dravidian dialects, and, living so far south, do not, so far as I am aware, exhibit the influence of Aryan speech. Some scholars, however, maintain that in some points they show a striking resemblance to remote members of the Indo-European family.

This survey of the speech of the rude hill tribes, which, in default of particular information, is more general than could be desired, shows clearly enough that in the more rugged, that is in the central and eastern portions of the country, the aboriginal languages have maintained themselves in nearly their ancient integrity, while in the more accessible region, near the western coast, the Aryans have not only made themselves masters of the land, but forced their language upon the earlier inhabitants.

When now we turn to our third division, we traverse a better known field and find a very different state of things. At a remote period, before the beginning of our era at least, Brahmanic missionaries crossed the Vindhya mountains and made their way into the southern peninsula. They were variously received by the tribes settled there. From some they suffered every species of annoyance, even to the loss of life; by others they were treated with the respect which became the sanctity of their lives. They brought with them the culture and learning of the north and communicated it freely to the little group

of disciples whom they soon gathered about their forest hermitages. By these, in turn, it was spread abroad over the land until all the tribes of the highland and plains accepted the Brahmanic faith, and with it many northern institutions. We have reason to think that even before the coming of these holy men some of the Dravidian tribes, particularly the Tamils, had risen above the condition of savages and possessed the elements of a primitive civilization. For this reason they welcomed more cordially the further light which was brought by the Brahmins. So far as we are able to discover it was in this peaceful way and not by force of arms that Aryan civilization made its way southward. Since the influence upon these languages was produced by learned men and the spread of Sanskrit literature rather than by an intimate commingling of the two races, we find that the Sanskrit has contributed more than the popular dialects of the north. In sounds the Sanskrit and the Dravidian alphabets coincide in the main, though each originally lacked several sounds possessed by the other. The Sanskrit sounds unknown to the ancient Dravidians—at least so far as the testimony of their written language goes—are the *r* and *l* vowels, the diphthongs *ai* and *au*, the aspirates of each *varga*, the sibilants and *h*. The Sanskrit *r* and *l* vowels suffer change in words introduced into the Tamil, but are pronounced in the other dialects. The diphthong *ai* is changed into *ei* in Tamil, but only in pronouncing Sanskrit words. Quite often this sound is avoided by the insertion of an euphonic letter between its constituent sounds. Though the aspirant and sibilant letters are foreign to the Dravidian family, they are freely used by most of the languages in the pronunciation of Sanskrit derivatives, and have even secured a lodgement in a few pure Dravidian words. The aspirates, however, are unknown in Tamil, and as a general rule the sibilants also. The *c* of Tamil, when single, is sounded very much like the Sanskrit *s*; when doubled it is sounded as in Sanskrit. The latter is the only sound in Telugu and colloquial Tamil. The *ś* and *ṣ* sounds are not admitted into classical Tamil, but are sometimes heard in the later language in the pronunciation of Sanskrit derivatives. The *h* sound is not known in Tamil or Malayâlam. The same is true of ancient Canarese, but the modern language regularly substitutes it for *p*, and it is also found in Telugu. From these statements it appears that while these Aryan sounds are frequently heard in the Dravidian languages—least of all in the Tamil—they have never been fairly naturalized, and cannot justly be reckoned as constituents of the Dravidian alphabets. The origin of the written signs of these languages is involved in much obscurity. Though their forms have suffered

great modification in course of centuries and on account of the material used for writing in southern India, there is considerable evidence that they were borrowed from the Aryans, having been developed from the characters of the Asoka inscriptions. There are at present three Dravidian alphabets: the Tamil, the Telugu-Canarese and the Malayâlam. Besides these there is the Grantha, or character in which Sanskrit is written in the Tamil country. The Telugu and Canarese alphabets agree with the Sanskrit except in possessing separate signs for short and long *e* and *o*, a hard *a* unknown to the Sanskrit and the peculiar vocalic *l* found only in the Vedas and in the northern vernaculars. Old Canarese has also the Dravidian vocalic *r*. The Malayâlam alphabet agrees with the Telugu and modern Canarese, except in having the vocalic *r* and but one sign for the short and long *e* and *o*. The Tamil alphabet differs considerably from the others. It has now, but did not formerly have, two signs for short and long *e* and *o*. It has no distinct signs for the aspirates, the sonants, the sibilants, or *h*.

NOTE ON A VERSE IN THE FIRST BOOK OF THE MACCABEES.

BY HOWARD CROSBY, D. D.

In the first book of the Maccabees (xii., 37), we read: *καὶ συνήχθησαν τοῦ οἰκοδομεῖν τὴν πόλιν, καὶ ἤγγισε τοῦ τείχους τοῦ χειμάρρου τοῦ ἐξ Ἀπηλιώτου, καὶ ἐπέσκεύασαν τὸ καλουμένον Χαφεναθά*. Literally translated, this is "and they were gathered together to build the city, and he approached the wall of the valley, that which is from Apeliotos, and they restored that which is called Chaphenatha." That there is a false reading here is evident. Jonathan is described as strengthening the fortifications of Jerusalem. He is said (ver. 36) to have determined to give an additional height to the walls, and to build a high wall between the citadel (that the Syrian party had hitherto occupied) and the city, so as to cut it off from communication with the city markets. Now the 37th verse seems to show the fulfilment of this design. But the present condition of the text gives nothing explicable. I propose to read *ἤγειρε* for *ἤγγισε* and *Καπηλίκου* for *Ἀπηλιώτου*, putting *τείχους* in the accusative, thus: *καὶ ἤγειρε τὸ τεῖχος τοῦ χειμάρρου τοῦ ἐκ Καπηλίκου*, which, translated, is: "and he erected the wall of the valley which is by the market." This would be the new wall intended to cut off the citadel from the town. It would be erected on the edge of the valley of the market, *i. e.*, the Tyropœon, where, even at the present day, the

bazaar is found. This *χειμάρρους* would thus naturally be distinguished from the great *χειμάρρους* of the Kedron (John xiii., 1.) Still again, what is Chaphenatha, which they restored? Is not Chaphenatha the same as Gabbatha of John xix., 13? If we suppose the word Gabbatha to be composed of the two Semitic roots גבה and עתר, and so to mean "hill of violence," the *n* in Chaphenatha may either represent the Ayin (according to a well-known change), or the final *n* of the second root by metathesis, or the word may be simply like the Hebrew *Gibbethon*, called Gabathon by Eusebius and Gabatha by Josephus, meaning only "a height." The place referred to would then be the spot where afterward the fortress of Antonia was erected, north of the temple, which finally became the citadel, instead of the old Baris, or Acra. It is not strange that the old Hebrew name should cling to a part of Antonia, perhaps to the oldest part of it.

HORTICULTURE IN THE TIME OF MERODACH-BALADAN.

BY REV. A. H. SAYCE, D. D., F. R. S., QUEEN'S COLLEGE, OXFORD, ENG.

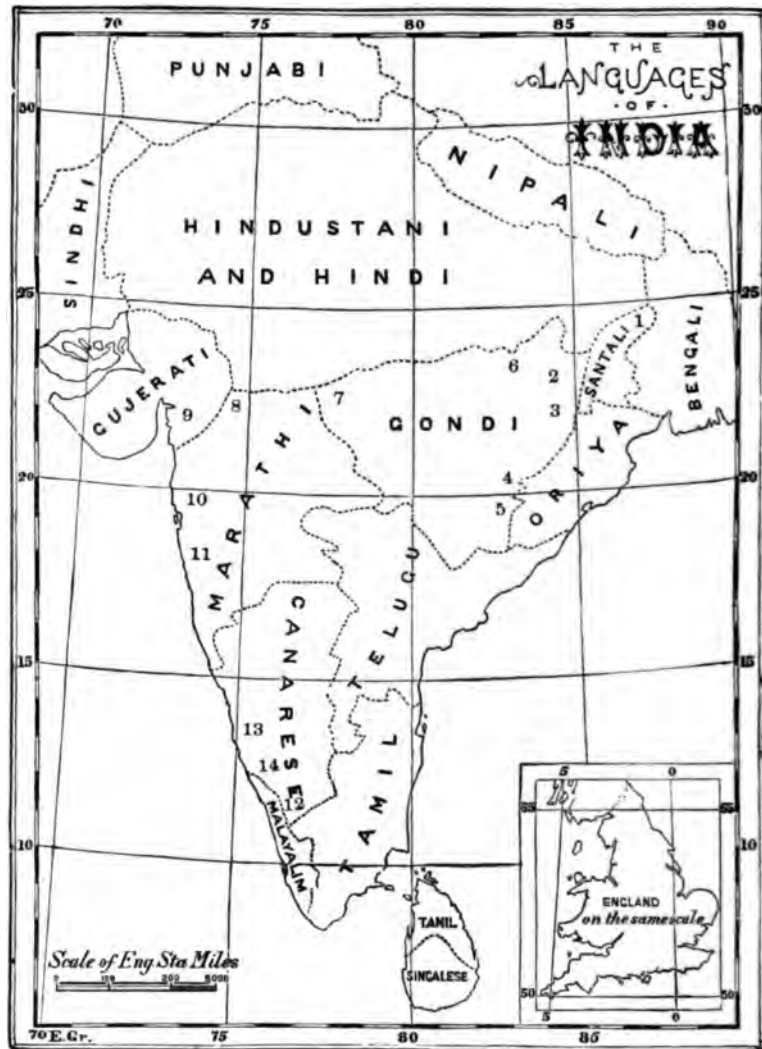
It has long been known that the kings of Assyria and Babylonia did not consider horticulture beneath their notice. An old work on agriculture, written in Accadian times, and therefore before the 17th century B. C., tells the farmer to choose the 30th day of Marchesvan, or October, "for the burning of weeds," and enjoins "the tenant of the farm to carry on his own head two-thirds of the produce and pay it to the owner." Another Accadian work contains some of the short songs with which the ox-drivers beguiled their labours in the field. Here are three of them: (1) "Before the oxen as they march, all in the grain thou layst thee down"; (2) "My knees are marching, my feet are not resting; with no wealth of thine own, grain thou begettest for me"; (3) "A heifer am I; to the cow I am yoked; the plough's handle is strong; lift it up, lift it up!"

The Assyrian king Tiglath-Pileser I. (B. C. 1130), was a patron of arboriculture, and his royal botanical gardens were stocked with the trees of conquered countries, which he endeavored to acclimate in Assyria. "The cedar," he says, "the *liccarin* tree and the *allacan* tree, from the countries which I have conquered, these trees, which none of the kings my fathers before me planted, I took, and in the plantations of my country I planted, and by the name of plantation I called. The plants which did not exist in my country I took. The plantations of Assyria I established."

Many years afterwards the Chaldæan prince Merodach-Baladan, who held possession of Babylon for more than twelve years, and, after making alliance with Hezekiah and other sovereigns in western Asia, attempted to resist both Sargon and his son Sennacherib, displayed a special interest in gardening and horticulture. A small, but well-written and well-preserved tablet has lately reached the British Museum, which gives a list of the gardens and plantations which belonged to him in Babylonia. Sixty-seven of these are described as being plantations as well as gardens; six more were nursery-gardens. The names of the gardens are mostly derived from the districts in which they were situated, or the towns to which they were near; but there were others which had significant names as "the stream of reeds," "the reeds of the waters of the city," or "the little." The colophon of the tablet is as follows: "The seed-gardens of Merodach-Baladan; like the original written and revised (is this) tablet of Merodach-sum-idin, the worshipper of Merodach." The copy, however, must have been made at a considerably later time than that at which the list was originally drawn up, since in one place no less than six names are imperfect, and the scribe has written against them "recently obliterated." The tablet now in the Museum was probably made in the reign of Nabuchadnezzar, for one of the royal libraries at Babylon, and the fact that a tablet of Merodach-Baladan still survived at that period, proves that the destruction of Babylon by Sennacherib in B. C. 690 was not so complete as the Assyrian king wished to make out. The library, at any rate, appears to have been saved, and with it a record of the great opponent of the Assyrian conqueror.

THE LANGUAGES OF INDIA.

The accompanying map, which appeared in the *Missionary Herald* of January, 1880, indicates only the principal languages of India proper. Throughout all East India, with a population of two hundred and forty millions, there are said to be in use five hundred and thirty-nine different languages or dialects, so that there is, on an average, more than one dialect to each half million people. The Hindi language is spoken by one hundred millions of people, a dialect of it, the Hindustani, being the language of the Mohammedans of all India. In the Lower Provinces of Bengal, with a population of about thirty-four millions, Bengali is spoken. After these two there follow the Marathi, Telugu, Tamil, and Punjabi, each spoken by fourteen to sixteen millions of souls. The Marathi is in use in the southern portion of the Bombay Presidency, although the language



of the Parsees, the Gujarati, is used in commerce in and about Bombay. The Tamil, spoken at Madras and throughout the Madura district, is also the language of Jaffna and Northern Ceylon. Numbers have been inserted to indicate the dialects which are spoken of in Prof. Avery's article. They are as follows:

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|-------------|-----------------------|----------------------------|
| 1. Mählers. | 6. Khawars and Ceras. | 11. Rámusis. |
| 2. Oráons. | 7. Kurkus. | 12. Todas, Kotas, Badagar, |
| 3. Ho. | 8. Bhills. | Kurumbus. |
| 4. Khonds. | 9. Kolfs. | 13. Tuluvas. |
| 5. Sausa. | 10. Váralis, Katodfs. | 14. Coorgs. |


THE SYMBOLISM OF THE GARDEN OF EDEN.

BY M. C. READ.

The real significance of the serpent and the other objects described in the second chapter of Genesis is a matter of especial interest to all Biblical scholars. The book of Genesis is very plainly, at least in part, a compilation of previously written documents. At chapter I, v. 1, chap. II, v. 4, and chap. V, v. 1, commence three distinct narratives, each commencing at the "beginning," the second using a different name for the creator than the other two. The compiler could not have regarded the first two of these as literal histories. For, if treated as historical, they are so much in conflict that they would not both be adopted by the same writer. The first contains an orderly account of the creation of the heavens and the earth, of plants and animals, substantially in the order inferred from the modern study of science. It contains no intimation that man was created as a single pair, but the intimation is that both man and animals were created in large numbers. The second entirely reverses this order. In it, man is the first of living creatures, created when "every plant of the field was not yet on the earth, and every herb of the field was not yet growing" (Sharp's translation.)

Then follows the creation of the Garden of Eden, which was caused to produce every tree pleasant to the sight and good for food, and the introduction of man into this garden; then the creating of the animal kingdom; after that the creation of woman, and after the expulsion from paradise the creation of "thorns and thistles."

In this garden were planted the tree of life, the tree of the knowledge of good and evil, of which the fruit was forbidden, and in it appears the serpent, as the wisest of all beasts, and the tempter of the woman. After the temptation it is condemned to crawl upon the ground, implying that before, it walked erect. As the conflict between this account of creation and the preceding one is wholly irreconcilable, if both are to be viewed as histories, we are compelled to regard one or the other of them as allegorical, and it is evident that all parts of the latter are in the style of allegory. The cutting of the woman out of the side of man; the tree of life, of which if the first pair should eat they would live forever; the interposition of Jehovah, driving them out of the garden lest they should eat of it; the making of garments of skins by Jehovah; the tree of knowledge of good and evil, the penalty denounced by Jehovah for the eating of which was.



death; the promise of the serpent, namely, wisdom; the fact that after the eating Jehovah declared that the promise, which was made by the serpent, was fulfilled, and that the pair had, by the eating, become as gods, knowing good and evil; the wise serpent, walking erect, endowed with the gift of speech, a universal oriental symbol; the Egyptian cherub stationed at the gate of the garden after the expulsion, are all in the style of allegory. They cannot be accepted as literal, historical facts.

They are symbols intended to teach some truths, and yet it may be very difficult to determine the significance of the symbolism. In attempting to do this it must be borne in mind that our written language came to us through various phases and changes, and was once almost wholly, if not entirely symbolical. Much has already been done in the way of interpreting ancient symbolism, in which all religious ideas were once embodied, and much of which has come down even to our day in the religious ideas of all the nations. The picture writing of Egypt represents the serpent as beneficent, bringing gifts to man, ordinarily walking erect, often with the legs and arms of a man. Throughout the east, in the oldest inscriptions, it is associated with the sacred tree, or tree of life, and very often with a nude couple standing beside the tree. The very picture which in our catechisms we studied, with the couplet "In Adam's fall we sinned all," we find to be older than any known written language, and that it has come down to us from the religious symbolism of the remote past.

In this ancient symbolism, the fruit-bearing tree represented woman, the passive, recipient element in the production of life; the serpent represented wisdom, life, the active element in the production of life, sexual passion, the male, and man. So that in the picture of the serpent twined around the fruit-bearing tree, and the nude couple standing by its side, the same idea was represented in two ways, one in symbol, and one in picture-writing. It represented the necessity of the combination of the male and female elements for the production of life, a necessity which the ancient religions supposed pertained equally to the gods, and that creation by the gods was always a Genesis, a begetting. This points us very clearly to the general significance of the symbolism of the garden, and the nature of that forbidden fruit which has brought the knowledge of both good and evil to all the race. It was the fruit, by the eating of which they became as gods, in that they also became creators and the introducers of life. The penalty pronounced upon the woman was the natural result of the act; the conscious shame of nakedness following it. No children were born to them until after the eating of this forbidden fruit. They are at first

represented as living in the innocence and unconsciousness of children who had not risen to a knowledge of the significance of sex, and who stood unclad in each other's presence without thought of impropriety. When this consciousness comes, when this forbidden fruit of childhood is plucked, it becomes the fruit of the knowledge of good and of evil to all the sons and daughters of the race. They are driven out of the Eden of innocent childhood, into the real battle of life, to eat their bread, and provide it for others, in the "sweat of their face," and to battle with the thorns and thistles with which their pathway is strewn.

This grouping of the symbols of the tree of life, and the fruit-bearing tree of the knowledge of good and evil, deserves further notice, and constitute a couple having a similar significance to the serpent and the fruit-bearing tree. The tree of life figures conspicuously in all ancient religious sculptures; sometimes it is the pine or palm tree, standing alone, sometimes standing in the center of the mystic grove, the emblem of the female, and is always a symbol of the phallus, or of the male, or of the male creator. It is the tree of life, through which all are enabled to "live forever," not as individuals, but in their race.*

Of the original phallic character of all this symbolism of the garden I have no doubt. To what an extent it may have acquired a modified meaning, when incorporated into the book of Genesis, it is difficult to determine. The cross was one of these prehistoric symbols, having the same significance as the palm-tree, or tree of life. As the race advanced from the ideas of its infancy, this symbol acquired new meanings, symbolizing in succession creative power, life, immortality, suffering, then the penalty, and finally the passion of Christ.

Some such modification has taken place in the serpent symbol. But in the Hebrew religious ideas before the captivity there was no dualism, no devil in revolt against Jehovah. His worshippers revered him as the cause of all things, the evil as well as the good, and had no place for any tempter of man, nor did they make any inquiry as to the cause of evil or of sin. The serpent reared by Moses in the wilderness, and afterward worshipped by the Jews, was beneficent, and they could not regard the serpent of the garden as symbolizing a devil who had no place in their philosophy.

* A similar symbolism was a characteristic feature of the idolatrous worship of the original inhabitants of Palestine, which was found so attractive to the Hebrews, and to many of the kings of Israel and of Judah. The "ashera," translated "grove" in our version, was the female symbol, of the form of a Gothic arch, as depicted on Assyrian and Babylonian sculptures, sometimes with the palm or pine tree standing in it, thus grouping together the male and female emblems, and signifying active creative power. It is recorded in I Kings, XV, 13, that Asa removed his mother (grandmother) Maachah from being queen, because she erected an idol or a horror in a grove. The vulgate renders the word *simulacrum prapti*, which, erected in the grove, became the same compound symbol depicted on ancient idolatrous sculptures.

This symbolism does not describe the fall of man, nor an event which "brought death into our world, and all our woe," but an imagined golden age of the primitive, innocent simplicity and infancy of the race, without any of the arts of life, without law, and without moral perceptions, when men were suffered to live as the birds live, and an actual golden age of each individual, when, without consciousness of moral obligations, man lives in the innocent gratification of all his natural impulses. It represents also the time when man awakes to the consciousness of moral obligations, and discovers that there is a higher law of right which often comes in conflict with natural impulses, and when the struggle commences which is to determine the real character of the man. It was the commencement of man's moral character, and of his moral discipline, and after it has once commenced, a return to that Eden of innocent childhood, for which he sometimes foolishly yearns, is forever impossible. Eden is a garden of delights for infancy and childhood. The actual world without, producing thorns and thistles, as well as every tree pleasant to the sight and good for food, is a much better place for man, the only place where he could obtain the discipline he needs to develop any true, manly characteristics.

At his first "fall" he hears the voice of God in his inner consciousness, reproaching him for his act, and warning him that he is in the way of death. If he heeds it, if he follows its admonitions, he is already in the way of life, which is to be obtained only by a continuous struggle with renewed temptations, which will make his knowledge of good and evil, his discrimination between the right and the wrong more complete and more accurate, and this life, with all its thorns and thistles, becomes to him a school, the discipline of which is more perfect than human wisdom could devise.

This explanation of the symbolism of the garden is intended to be tentative rather than exhaustive, and is written with the design of calling the attention of Biblical scholars to the necessity of the study of ancient symbolism as a pre-requisite to a knowledge of the sacred books of antiquity; books which recorded religious ideas previously embodied in symbolism, and which, of necessity, carried much of this symbolism into the written word. When this symbolic language of the primitive religions is fully understood, it will throw a flood of light upon the religious records which gradually superseded the symbolic records.*

*NOTE.—The cherub mentioned above is in the Old Testament associated with the seraph, and M. Ernes de Bauson, in a paper read before the London Society of Biblical Archæology, shows that in the cuneiform inscriptions there were bulls, and symbols of the constellation Taurus, which at its rising was called Kerub or Cherub, and at its setting Seraph or Ser-ahim, literally the grave of the bull. This leads to an explanation of the symbol of the chariot of the cherubim, of Jehovah riding upon the cherub, and dwelling between the cherubs, etc. It furnishes also a clue to the significance of the Ark of the Covenant, an attempted explanation of which will be given in another paper.

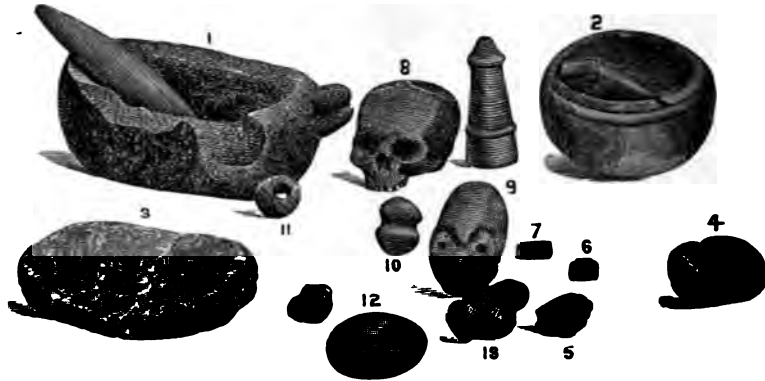
CORRESPONDENCE.

OREGON AND HER PREHISTORIC RELICS.

To the Editor of the American Antiquarian:

Oregon, though an agricultural country, is also rich in minerals. Her mountains hold hidden treasures of gold, silver, iron, lead and coal, and one day, when facilities of commerce and trade shall bring to us the people and capital that follow the iron horse, then will be fully known the great and wonderful resources of this far west. With a climate mild and salubrious, yet with sufficient degrees of heat and cold to mark the seasons, it was Arcadia for the red man. Years ago the rivers and ocean shores teemed with an aboriginal people that could not be numbered. Tradition seals the fact, as well as does the great shell beds, whose ancient story we told in a previous number. It is in the memory of the first white settlers of the Hudson Bay Company that on their arrival there was a numerous and warlike people who lived and thrived in this climate which fostered life and population. Two great water courses, the Columbia and Willamette rivers, afforded great highways through the length and breadth of the land, and great canoes of red wood and cedar navigated the waters, some of which had high prows beautifully carved. But less than a century has passed, and now little remains to tell of former greatness and strength. These numerous tribes have, in this short time, almost disappeared. The vices of white men soon told upon their primitive life, and the scattered remnants of these different tribes have been gathered into reservations where their identity soon ceased. Their canoes have one by one been laid in the "mimaloose ground," over the graves of the dead owners, or have been hung in the tall fir trees, a coffin for the dead brave, who, wrapped in his riches of blankets and beads, rocked to the dirge of the ocean's endless drone. Falling to the ground, the white man finds only the bleached bones, the imperishable beads, and the gaudy band of brass that still circles the fleshless limbs. Now there remains of those who lived, fought and died before white men came, a few stone idols, and a few implements of warfare and domestic use, which mostly tell of their wild life. There are no tumuli or earthworks as in Ohio, no temples as in Central America, nor remains of houses and pottery, as in the Aztec country. Our Indians, though seeming to live a ruder or more primitive life, still seem not to have been deficient in courage or nobility of character. The tribes of the interior, the Nez Perces or Cayusis, were models of perfect manhood

and womanhood, while the Indians of the coast seem to be some degrees lower in the scale of humanity. It has been asserted that those people whose diet is principally fish are not of as high a type of man as those who follow the chase—a fact which is borne out in our own observations of the aborigines of this country.



On the banks of the Willamette river, near Oregon City Falls, are found many articles interesting to the antiquarian, this spot being a fine fishing place and a favorite rendezvous for friendly tribes. Dr. Rafferty, of East Patten, has made a fine collection, and to some of these articles we give attention. and whose uses would have been a matter of conjecture only that there still lives "Old John," the last of his tribe, an aged Indian, who interprets the mystery. First among these relics come the mortar and pestle, for then as now, bread was the staff of life and formed an important branch of domestic industry Fig. 1 and 2 are mortars, one of which is carved like a duck, weighing some twenty pounds. This has a hole in the bottom and was probably a votive offering, as any article left for the dead was always rendered unfit for use. Bread was made principally of a bulb called camas, it having a sweet taste and full of starch. The seeds of the pond lilly were used, being first roasted, then crushed in the mortar. Sometimes grasshoppers and the big black beetles formed a part of the mixture. These insects are found in great numbers in Eastern Oregon, and the writer has watched the process of capture. A hole of good size is dug in the ground, lined with stones which are heated by fire; then with bush and stick the fat, lively fellows are driven from a wide circle to the central spot of cremation, a dozen or so of squaws helping to "round in" the swarming multitude. The hole is covered with grass and dirt, till sufficiently dried to put in skin bags for winter soup. It is said

that they are nutritious and not bad to eat when hungry; at any rate some Caucasian lives have been saved by this food.

No. 3 shows a thin plate of stone on which the bread is kneaded and baked. No. 4 is a stone ax or hammer. Fig. 5, 6 and 7 are pieces of a file which fail to show the acute corrugations. 8 is the skull of a Flat-head Indian, though the position does not give as good a view as might be of the sloping forehead. Old John says that the heads were pressed in this way for better protection from enemies, as in case of warfare, in looking out from behind a tree, the retreating forehead gives no target for the enemies' arrow. This is the only reason ever given for this cruel malformation, and which was the custom of a large tribe called Flat-heads. It was not a custom with every tribe. Thirty years ago we frequently saw the process of strapping the board on the plastic head of Indian babies. At birth all the children were bound to a narrow board, with a curtain to protect the head and eyes, the mother carrying it on her back while traveling, or standing it up against some convenient prop while at rest. The Flat-head mother added the cruel board, tied with thongs, pressing the little head to regulation shape. Fig. 9 is an idol; 10 is a sinker for a net; 11 is used in a game of pitch; 12 is another sinker; 13 was used for dressing the inside of skins, and also a sort of idol strongly resembling a bird in flight.

There is on Sauvies island, in the Willamette river, a place where there has seemed to have once been a place of some sort of heathen worship. Several idols have been found there, and Dr. Rafferty saw one there that was too large for ordinary transportation, and hopes yet to preserve it from destruction.

Great annual fairs or gatherings took place every year at different points, at stated seasons, where horses, buffalo skins and meal commodities peculiar to certain regions were "swapped" off with other tribes who furnished dried salmon and venison. Gambling and horse-racing had a prime place on these festive occasions; dancing also. We saw a dance at the Cascades years ago, the occasion of which seemed like one of the Jewish rites, which lasted three days with great rejoicing and noise. The young men were dressed entirely in skins and with beautifully wrought mocassins, beads and feathers.

The vices of white people soon brought contamination and disease among those happy children of nature, and a quarter of a century finds a few left in the lowest scale of humanity.

HARRIOT BUCKINGHAM.

LOOK-OUT MOUNDS IN OHIO.

To the Editor of the American Antiquarian :

The mounds of observation in this section cap the hills at chief promontories of oversight on the river valleys, and are located so as to be signal stations to each system, or lines of valleys of agriculture, or small valleys of residence. It is remarkable with what wisdom their sites for mounds are selected. They are not here connected with enclosures or defensive works. So far I have not found these mounds burial places, unless the mound is on a spur of a hill, or small elevation. Our hills are 200 to 500 ft. high, and the signal observatory mounds are on their prominent, overlooking tops. The mounds are in lines of direct communication. They command extensive oversight of the valleys and surrounding hill tops. They are separated by the width of the valley, being on opposite sides and up and down the valley, first one side and then the other, at convenient distances for clear vision. Some are singularly constructed of stone and earth, and when opened, present a three-fold arch of clay and stone, and in the center, on the natural ground, an altar or pile of iron ore—no ashes, but little traces of fire, and yet the sand stone in places show evidence of being in the fire. At the junction of the main valleys generally a large mound is found in the valley. This system of mounds of observation and signal stations are so located as to communicate across the country from valley to valley.

The Mound Builders here were an agricultural people, and evidently largely subsisted by traffic in flint implements, and carried on their trade of quarrymen and manufacturers. I trace them back for miles from the quarry to a valley of genial sunlight and water, where they dwelt and had their factories. No question of this is in my mind. Caches of flint are still dug up where they dwelt. Their cellars or pits for storage are very numerous. Farmers call them sinks, but thirty or forty sink-holes in a location are the old cellars of a deserted village. Why did they build a mound on the point of a hill, where nature gave them an outlook ? Did not these signal mounds serve them simultaneously for religious worship ? We stand a pole, or make a ladder of a tree to observe from. Why did they cast up a mound 5 or 8 ft. high, and 10 to 30 ft. in diameter ?

GAMBRIER, O.

PETER NEFF.

EARTHWORKS ON THE MISSOURI RIVER.

To the Editor of the American Antiquarian :

Your letter and card at hand. It will give me great pleasure to assist you in procuring information to be used in your excellent journal. Mr. Seth Dean and myself are making a careful investigation of the antiquities of this county—Mills—and locating accurately upon a map of the county all earthworks, "open-air workshops," &c. We have found that the bluffs which skirt the eastern side of the old flood plain of the Missouri are very rich in various evidences of a prehistoric race, and, from slight examination, we believe the bluffs of the Nebraska side to present the same field for study. We have been at work nearly a year, and but see our task fairly commenced. Before I undertake to say that a "system" of signal stations exist on the Missouri bluffs, I shall want all the evidence from both sides of the case, or the river.

The vessel of pottery, a photo of which has been sent you, was found by a party of workmen, in making an excavation for a road near Glenwood. When found, it was perfect, but before it came into my collection it had been broken into several pieces. It was under six feet of "bluff deposit"—Loess—when found, and was not accompanied by other relics. The place where this find was made is a low hill, of about twenty-five feet in its greatest height, and but a short distance from Keg Creek. The hill was formerly covered by heavy timber. I have carefully studied the exposure made at the time the vessel was found, and dug into the side of the hill where it was found, and discovered a few bits of burned clay. There are no earthworks within a mile of this place known to me, though flint chips and stray bits of pottery are to be found everywhere in the bluffs. I will, if you desire, furnish you notes of our work from time to time.

Respectfully,

S. V. PROUDFIT.

GLENWOOD, Iowa.

THE ANCIENT POTTERY MAKERS.

To the Editor of the American Antiquarian :

The Mound Builders, the authors of the great mounds of Ohio, Illinois, and elsewhere, had advanced to a considerable degree in civilization, inasmuch as they had a regular form of government, lived mainly on the products of the soil, and had

begun to cultivate, at least, a taste for the imitation of nature in harmony and graceful pose, sculptured from the hardest stone. Some of these curious relics in our collections are made from the hardest and most obdurate quartz, hornstone, granite and jasper, and were the work of years, perhaps the major part of a lifetime, in their completion.

Along with the Mound Builders were another ingenious and agricultural race, who were not such great mound builders, neither did they sculpture such beautiful things from stone, but their imitative genius is wonderfully shown in the manufacture of curious pottery. They were, in fact, masters of the ceramic art. Perhaps we have very few modern artists to-day that could equal these ancient pottery makers in taste, skill, curious design, and wonderful imitation of nature. Birds, beasts, fishes, even the shells on the river shore have an exact counterpart even in their domestic utensils. While digging in one of these pottery mounds in Missouri, we unearthed a large tortoise. We thought it was alive, and seizing it to cast in the woods for its liberty, we were suddenly surprised to find our tortoise was an earthen vessel in that shape. In the same mound we uncovered a huge shell, the single valve of a *Unio*. Closer inspection revealed that it was a perfect earthen vessel. Following, there came a perfect fish, exhibiting, to our astonishment, the scales, fins, and peculiarities of that species of fish in detail.

When I walk around in my collection of thousands of the implements, ornaments and tools of the people of the stone age, and see their skill, genius, and wonderful patience to manufacture articles for their comfort and use solely of stone, I cannot help wondering what their appearance was. I took from a mound in Missouri a pipe of hard sandstone, the bowl of which is carved to represent a splendid human head, on the cheeks of which is depicted a beard, almost precisely similar to the beard depicted on the face in the sculptures of the ancient Assyrians in the ruins of Nineveh, as given by Layard.

These ancient people suddenly disappeared, leaving behind them a wonderful record in stone and pottery. Their only life-work are found in their mounds, graves, and in the relics scattered about the vicinity of their habitations.

It is the archæologist's pleasant duty to gather up these bits of history, scraps though they be. A publication like the *ANTIQUARIAN*, if properly encouraged by those interested in these matters, might be a medium of exchange of ideas, suggested by real work in the field. Short accounts of discoveries of interest would be really welcomed and of value.

OTTERVILLE, ILL., Oct. 7, 1880.

WM. MCADAMS.

WISCONSIN COPPER FINDS AND LAKE DWELLINGS.

To the Editor of the American Antiquarian:

A copper implement was lately discovered on a little flat in Brough district (range 1 east, township 22, section 2), in Farmington, Waupacca county. In shape it strongly resembles a chopping-knife. In size it is $5\frac{1}{2}$ inches long, one inch wide, and about one-eighth of an inch thick. How was it intended to be used?

A copper spear seven inches long, with a socket for receiving a shaft, in perfect preservation, was picked up in the spring of 1880, on the beach of a lakelet south of Rice Lake, by a Mr. Leonard. It had evidently been lost in the water, and thrown up on the shore by waves. At least a hundred of the coppers in the state collection in the Wisconsin Capitol at Madison, have been likewise met with on the banks of lakes. The fact of their being discovered in such situations tends to confirm the theory that pile houses or lake dwellings were as common in prehistoric eras in America, as in any transatlantic region. No inter-communication need be supposed between sea-severed tribes. Nature itself would teach peoples aiming at a similar end, and having the same means at command, to employ the same means.

In 1831, Schoolcraft, then Indian agent in Mackinaw, was ordered, with Lieut. Clary and some forty men, to explore the region south of the river St. Croix. On the 6th of August they found the trading house (no doubt a stockade) at Lake Chetek, burned. Now Chetek is only about a dozen miles from the ruin which I explored, and have been describing.

A pipe just presented to the Wisconsin Historical Society, was exhumed in Waupacca county at the depth of twenty feet beneath the surface of the ground. It was found in digging a well. It is of red pipestone, similar to that met with in Brown county, Wis., which is of a more dull red than the Minnesota variety.

J. D. BUTLER.

MADISON, Wis.

THE RAPID FORMING OF ROCK-STRATAS IN OREGON.

To the Editor of the American Antiquarian:

Permit me to ask a question. I see it often stated that relics of old races are found at a certain depth below the surface of the earth, with the strata apparently undisturbed above them, and the conclusion is that they have lain there long enough for the strata to form above them. Is this necessarily so? Do strata never join after having once been broken? Several years of my life were spent on a farm in the Walla Walla valley in this territory. On that farm were alkali flats, beneath which lay a

black alkali rock, from one to five or six inches in thickness, so hard that it is impossible, when more than about an inch thick to dig through it with simply a spade, but a pick is also necessary. It is usually from three inches to two feet below the surface of the ground. Many a rod have I dug through it with a pick. Yet such is its nature, that when a hole is dug through it, and the alkali rock removed, that it will join itself together again in a few years, unless the space broken is very large, and it is uncovered. I have often seen the alkali rock forming on the edges of open ditches, and have dug through the same place with a pick, the second time.

Some persons finding a relic beneath this rock might infer that it was hundreds of years old, and yet they might be mistaken. Rotten timber has been found beneath this layer, which was placed there since the country was settled, about forty-five years ago.

Now, are there no other strata which thus unite after being once broken? I acknowledge my ignorance, but when I have read of the situation of some relics beneath some unbroken strata, and supposed to be many thousand years old, my knowledge of this rock has made me wonder whether some of the strata might not join together in a few hundred or two thousand years. Will some one be kind enough to inform me?

SKOKOMISH, Mason Co., Washington Ter.

M. ELLS.

WILD RICE.

To the Editor of the American Antiquarian:

Zizania aquatica, L., Indian rice, wild rice, Canada rice, water oats, folle avoine of the French settlers, grows on the borders and shallows of our fresh water rivers and lakes in eastern Massachusetts; on the Hudson and Delaware rivers, particularly luxuriant where the tide ebbs and falls, even twelve feet high. (Gould.) It grows abundantly on the borders of the small lakes in Michigan, Indiana, Iowa, Minnesota and Wisconsin, in water from two to five, and sometimes even nine feet deep. (Klippart.) It is also found wild in all of the southern states.

The columns or stalks are from three to twelve feet long. The panish or head is large, of a pyramidal form, the lower branches staminate and the upper pistillate. When the pollen is shed, it rises to impregnate the pistillate flowers. It is an annual, and flowers in July or August in the northern states. The seeds are blackish, smooth, various, cylindrical, about one-half inch long, very deciduous, falling from the plant when ripe at the slightest shake. Within they are white and farinaceous.

The northern Indians of the lakes and rivers between the Mississippi and Lake Superior, gather the seed by pushing a canoe between the stalks, and beating the heads over the boat. An acre of rice is said to be nearly or quite equal to an acre of wheat in nutriment, and the grain, whether eaten dry, roasted, or otherwise cooked, is esteemed palatable. Father Hennepin, in 1680, on his journey to and along the Mississippi, ate it, and pronounces "these oats better and more wholesome than rice." Its fruit is in universal use by the Indian tribes of the north-west. Jonathan Carver, in 1784, penetrated the western country, and pronounced this rice "the most valuable of all the spontaneous productions of that country." Gen. Verplanck, a commissioner to the Chippewa Indians, pronounces it better than southern rice, the kernels being larger, and its flavor better. When boiled and stewed, and left to cool, it forms, he says, a consistent mass, like good wheat bread, and more nutritious. It forms the main reliance of the Indians during the winter months for their sustenance. Prof. Randall, of Cincinnati, also considers this grain superior in taste and far more nutritious than southern rice.

Pinkerton, long ago, said that this plant seemed designed by nature to become the bread-corn of the north, and Professor Bennett says: "It has all the natural capabilities to become a valuable corn. We find, however, no instance of its cultivation as a corn crop, although it was planted in England as early as 1791. It is probable that the difficulty of harvesting will offset other advantages; an Indian squaw will gather up five to ten bushels a day. The deciduous nature of the seed is also a barrier to its culture."

The first mention of this wild rice is probably by the Northmen, about 1006, at Nop, supposed by Prof. Roper to be in the vicinity of Taunton, Mass. "They found there upon the land self-sown fields of wheat; there, where the ground was low, but oats there when it rose somewhat." (*Voyages of the Northmen to America*, Penn'a Soc. ed., p. 51.)

This plant is said by Gould to be especially adapted for soil-ing, and to be harvested with as little trouble as hay can be from the salt marshes from which it is taken. Wherever cows do get a chance to feed on it, he says, they show its value in the increased flow and the increased richness of their milk. Bigelow, in his *Plants of Boston*, says that "horses appear to be fond of it, and no plant now employed as forage offers a larger crop." Elliot says its leaves are succulent and eaten with avidity by stock of all descriptions. In Savannah, under the name of wild oats, it is used almost exclusively during the summer season as green fodder for their cows and horses. A Mr. Gazzo, of La

Fourche, La., says stock of every description are fond of it when green or cured as hay. The first settlers in Louisiana called it *folle avoine*. It will yield two crops a year of good hay.

It is spoken of in the *Gardener's Chronicle*, Aug. 1, 1874, under the heading of "new material for paper."

Zizania latifolia, Nance, syn. *Hydropyrum latifolium*, Griseb, is the "Kaw-sun" of China. It is found in lakes of Amoor, Manchuria, China and Japan. From Dr. Nance we learn that the solid base of the stem forms a very choice vegetable, largely used in China, where it is cultivated.

Trusting these hastily gathered facts may prove of interest,

Very truly yours, E. LEWIS STURTEVANT.

So. FRAMINGHAM, Mass., Oct. 25, 1880.

NEST OF FLINT RELICS.

To the Editor of the *American Antiquarian*:

Dear Sir: The cache to which I referred was discovered on the farm of Mr. Ed. Witman, two miles west of Centreville, Montgomery Co., O. The ground which (at the point where the discovery was made), is slightly elevated, had been so far reduced by long-continued culture that finally the plow crashed through the upper part of the pile with a racket and jingle quite startling to the young plowman. A glance, however, revealed the rather interesting cause. I happened very opportunely to pass through the neighborhood a few days after the discovery, when my attention was directed to it. The deposit contained six hundred and twenty-one (621) perfect specimens, exclusive of some two dozen that were broken by the plow. As usual in such cases, they are all plain, or of the leaf form, but remarkably symmetrical. The material is a brownish black chert. In length they range from two to five inches. The form of a large percentage of them is oval, terminating in a sharp apex. There are very few narrow ones, and these are uniformly the longest. They were placed in the ground, edge up, which was the cause of so many broken ones. The weight of the entire batch of perfect specimens is forty-five (45) pounds.

Some years ago, a few dozen of these objects were turned up by the plow a short distance from the large deposit. They were piled up on a stump, where they were subsequently found by the "boys," who fully appreciated their value as "missiles."

ALEXANDERSVILLE, O.

S. H. BINKLEY.

PREGLACIAL MAN.

To the Editor of the American Antiquarian:


Will you give me space for a brief note in regard to the very interesting paper in the October number of the *ANTIQUARIAN*, by Miss Babbitt. The question of the existence of pre- or inter-glacial man in America is of first importance, and every fact which bears upon the question should be most carefully scrutinized. The "find" of quartz flakes, etc., described in the paper, was "at the base of a gentle slope which intersects both the level surface of the terrace proper and the steeper terrace bank." The flakes also were found to "lie upon a *bed* of *soil*, of the same character with that above." Is it not pretty evident from these facts that the articles originally constituted a *surface* deposit, which has been covered by a land slide, or by some equivalent means, perhaps the uprooting of a tree growing on the slope? It seems to me that the conditions of deposit prohibit us from viewing it as any evidence of the existence of man at or near the time of the glacial epoch. R.

EDITORIAL.

THE DISCOVERIES AT OLYMPIA.

Olympia, the scene of the explorations which have been carried on under the Prussian Government, is one of the most interesting localities in all Greece. It is the place where the Olympian games were celebrated, and where the earliest specimens of nude art and architecture are found. In fact, the Hellenic race may be said to have begun their history here, for the dates of all events are counted from the era of the Olympic games, which begun in 776 B. C., and their earliest distinctive cultus appeared then. There was, to be sure, a prehistoric cultus which, during the mythic age, had made considerable advance. An oracle of Jupiter was there long before the era of the Olympic games, and it is said that even the games themselves were played there by gods and men. The first cultus which existed here was Pelasgian, but the Doric migration introduced the distinctively Greek or Hellenic art.

The destruction of Olympia occurred about the time of the cessation of the Olympic games in the year 395 A. D. In the same year the Goths, with Alaric at their head, invaded the palaces and temples, melted down such bronze statues as the Christian iconoclasts had left, and destroyed the villages and cities.



Silence and obscurity settled down upon Olympia, and the very site was forgotten. The first to discover the spot was an English traveler, who, in 1766, looked down from the mountain and beheld the works of art buried among the overgrowing forests. In 1829 the work of exploring the site was undertaken under the French, and many valuable treasures were discovered. In 1851 Ernest Curtius, the eminent historian, urged the German Government to undertake the exploration, but the work was delayed until 1875. It was then begun, and about \$40,000 has been spent annually by that government, the statues and works of art being, however, left the Greeks, and only casts being taken by the Germans.

Among the works which have been brought to light from the ruins of this ancient city, the most interesting to the archæologist are the buildings, about forty of which have been discovered, the statues, and especially the memorials of the ancient games.


The buildings enumerated are the Stadion, the treasure houses, the terrace of the Zanes, the Metron, the Exedra, the Heraion, the Phillipeion, the Gymnasium, the Hippodrome and especially the Temple of Zeus.

The ruins of these different buildings have been uncovered, and many interesting points in their architecture and ornamentation are observed; but the most interesting point is the relative situation of the buildings. They were in close proximity. The altar of Zeus, the Stadion and the Hippodrome were closely connected by a road running from the northwest gate of the altis to the altar of Zeus and to the agora or square. This altar stood in the center of the sacred enclosure, between the three doric peripteral temples of Zeus, Hera and Rhea. Of these three temples that of Zeus was by far the largest and the most splendid. It was built as early as 570 B. C. and was finished six years after the Parthenon. The material was a hard porous, sand-colored Tufa, but this being stuccoed, had the appearance of marble. The style was Doric, and a purer form of the art than that found in the Parthenon.

The temple stood upon a stylobate, or platform, ascended by three steps, which rested upon a solid basis of stone-work. It was peripteral (surrounded by columns), having six columns in front and thirteen columns on the side. The columns were thirty-four feet four inches in height and seven feet three inches in diameter. The building, which was two hundred and ten feet three inches long and sixty-six feet five inches high and ninety feet eleven inches wide, was divided into three parts, namely, the pronaos, with the corresponding posticum at either end, and the cella between them, which was entered by the great eastern door.

The cella was divided into a nave and side aisles by two rows of seven columns each, which supported galleries. A low wall divided the middle aisle from the side aisle, and a gate between the columns of the west end prevented an approach too near the image of the god, which stood at the back of the sanctuary opposite the door of the entrance. This temple at Olympia has been compared to the Parthenon at Athens, but was in many respects inferior. It stood in a valley surrounded by a grove of trees, the *altis*, while the Parthenon was raised upon the Acropolis, and was visible from a great distance. It was built in the doric style by a native artist. It contained the celebrated Cryselephantine statue of Zeus, which has been described by Pausanias as according to the testimony of antiquity the greatest marvel of art. This splendid image, with the throne and base, was forty feet in height. It is said to have completely realized the idea conveyed by the well-known epithet, "Father of Gods and men, suggesting mingled power and benignity." No trace has been discovered of the statue, as the material out of which it was constructed was perishable. Within 510 years of the time of Phidias, its maker, it had to be repaired, the gold and ivory plates of which it was formed having separated from the core of wood beneath. In Cæsar's time it was struck by a thunderbolt, but was destroyed, when the building was burned by fire in the days of Theodosius.

Of the statues found, the Hermes, with the infant Dionysus, by Praxiteles, is, perhaps, the most remarkable. Pausanias describes this in the fifth book of his *Itinerary*. The identical group described by Pausanias seventeen hundred years before, was discovered in 1877. It was mutilated, both arms being broken off, and both legs a little below the knee; but the trunk was unharmed, and the matchless head was without a scratch. The right arm from the shoulder to the elbow, and the left arm complete, were afterwards (1878) discovered. This arm, which still bore the torso of the infant, rested upon the trunk of a tree, over which fell to the ground in rich folds the mantle on which the child rested. A cast of this statue is now in the Boston Museum of Fine Arts. The worship of Dionysus originated with the Thracians, but afterwards received from oriental religions many foreign elements. He was one of the native deities whose worship became almost universal. The old myth is full of anthropomorphic symbolism. Zeus (the supreme power) begets by Demeter (or earth) a daughter, Persephone, the world of Vegetation. While she is still young and fair she is borne down by Hades (death) to the gloom of the Under world. She becomes a mother by her own father, and gives birth to Zagreus (or animal nature), whose highest form is savage man. Zagreus.



excites the jealousy of the Titans (the destructive forces of nature), who rend him by piecemeal and devour all but his heart, which is carried to Zeus. Zeus vowing vengeance against the Titans, devours the heart and conceals it in his thigh. In due time the child Dionysus is born and delivered by its father to Hermes, who carries it to its earth-nurses, the nymphs of Nysa. Dionysus, the God of Wine, the offspring of the highest power of nature in all its successive phases, is entrusted to the messenger of the gods to be conveyed to the earth, where he is to dwell and be a god. Thus did mythology and poetry combine to celebrate the powers of nature in all. Praxiteles, taking advantage of the myth, has embodied the whole of these strange personifications in the statue, which has been exhumed.

The most beautiful work of art discovered is the Niké of Paionios. This has been described by Mr. Chas. H. Perkins, in the sixth number of the *American Art Review*. It stood in front of the temple façade, on the summit of a shaft formed of ten blocks of marble, resting on an oblong block of the same. Its superiority as a work of art makes it difficult to be believed that it was by this artist, but it is true to the northern school of art, showing the realism of that school. It is one of the few pieces of statuary of Paionios which attained to the merit of the works of the real masters of Greece.

The illustrations of the games found at Olympia are given by the groups of statuary which were placed on the front gate of the temple of Zeus. This was sculptured by Paionios, and represented the chariot race between Pelops and Oinomaos, King of Pisa. They were described by Pausanias, and have been restored from the description. All of the twenty-one figures belonging to this group have been discovered, although ten of the male figures are headless, and all are more or less mutilated, but are sufficiently perfect for purposes of identification.

The myth is that Oinomaos had been warned that his daughter Hippodamia should marry. He obliged her suitors to race with him on condition that those who failed should forfeit their lives. Thirteen had perished when Pelops had obtained from Poseidon his golden car and winged coursers, and, entering the list, gained an easy victory. This is the story which the artist has illustrated by the group on the gable end of the temple, and the figures have nearly all been identified as representing the personæ of the myth.

The Olympic games differed from the Pythian, the Nemean and the Isthmian, in that only equestrian and gymnastic competitors were allowed. They were celebrated by athletes, who underwent ten months' training, but who appeared before the

Judges (*Hellanodikoi*), and were obliged to swear before the statute of Zeus *Horkios* that they were guiltless of all murder, dishonesty and impiety. Despite these oaths there were instances of perjury, and, as a punishment, heavy fines were imposed, and the money spent upon bronze statues called *Zanes*, which were erected near the treasure houses.

A terrace has been discovered on which stood the statues called *Zanes*, which were erected with the money of the perjured athletes, and the pedestals and colossal foot, and some thunder bolts, have been identified as belonging to the statues. An inscription on a bronze plate belonging to the statue of an athlete has also been deciphered.

The racing was either with *Quadriga*—four-horse chariots, or *Biga*—two-horse chariots. At times women were admitted, and it is remarkable that the inscription concerning *Kyniska*, the daughter of *Archidamos*, the king of Spain, the first one who gained a victory, has been found at Olympia, corresponding to the description of *Pausanias*, who says that a *Quadriga*, with the effigy of the Princess, stood in the *pronaos* of the temple of the Zeus.

These various particulars concerning the Olympian games have been remarkably illustrated by other discoveries. The picture of the judges is found in a bas-relief on a cippus, found at *Chiensi*; the crowning of an athlete is also traced in the ornamentation of a vase in the collection of the Duc de Luynes; the marble seat of an *Agonothete* has been found at Athens, the picture of a charioteer is seen in a Græco-Etruscan vase, and other monuments; but nowhere have the illustrations been so complete as in Olympia, and especially in the Temple of Zeus. The statues referred to are colossal, twenty-one in number, and were arranged originally on the west pediment of the temple, with Zeus, as a judge of the battle, in the middle, and the two river gods, *Alpheios* and *Kladeos* in the outer angles. Beside these, an altar stood before the temple, on which the hecatomb or offering of one hundred oxen was made, on the fifth day of the games. A roadway, along which the deputies of the Hellenes drove in sacred procession in their magnificent chariots, led to this altar, and to the temple. The space around the temple was filled with the statues of the victors in the games. In fact the place abounded with the monuments of the games. The statues were many of them made of bronze, and these were melted down by the Goths, and other monuments were removed and placed in the walls for defense, during the times of the Byzantine empire, yet enough remain to make the record well-nigh complete.

Not only this, but many other points in Greek archæology have been fully illustrated.

The various stories of Greek mythology are here embodied in statuary and sculpture. The works of many known and unknown artists have been brought to light, showing both the skill of these old masters as it has never been shown before, and at the same time exhibiting in their expressive attitudes and in their artistic lines the mythologic conceptions which there prevailed. On the east pediment of the temple was a group which illustrated the story of the centaurs and the wedding-feast of Peirithoos. In this group the centaurs are seen carrying off the women, and the Hellenes are coming to the rescue. Combatants are seen engaged in strife. Prostrate on the ground are female slaves lamenting, and Apollo is seen intervening in the strife.

On the metopes of both ends of the temple the twelve labors of Hercules are sculptured in alto relievo. Other events in mythology are also here illustrated. The whole worship of Zeus had its focus in this temple. Near it, between the temple and the Heraion, was the precinct where Pelops, the hero and ancestor of the Hellenes, was worshipped, the place still retaining the simplicity of the olden time. The worship of Hera and Apollo also prevailed here. The discovery of Olympia is indeed, as Prof. Curtius* says, an event that marks an epoch in our knowledge of Hellenic antiquity.

The history of architecture has received fresh light; the comparison of temple architecture in Greece with that in other countries has been made easy, and the whole subject of the evolution of art and architecture has been opened to investigation. The inscriptions also which have been discovered belong to most diverse epochs, and exhibit a great variety in the form of letters, and hence the history of the alphabet receives additional light. The connection of the naturalistic thought and the religious or spiritual conceptions in mythology has also received fresh illustration in the works of art, and so the whole subject of history, mythology, art and architecture of the early poetical age of Greece is concentrated here, and at one view brought to the eye of archæologist and student together. No discovery in the nineteenth century compares with this in this respect, and many a year of science will be occupied in gathering the harvest.

*See North American Review, December, 1880.

THE JOURNEY OF JACOB.

The International Sunday School Lessons have again brought up the question of the location of Haran.* The Haran of tradition, that is Charræ of Mesopotamia beyond the Euphrates, is upward of three hundred geographical miles from the central summit of the Gileadite Mountains. It would take not a week but a month to accomplish this journey on foot, considering the difficulties of a route partly across the desert and the additional circumstance pleaded by Jacob as an excuse, that it was the breeding season of the flocks and it would be unsafe to urge them on the road. It would have been a physical impossibility for him to have made the journey in less time. Yet we are told that Jacob and his family, including his wife and children, and his numerous flocks, accomplished the journey in ten days. Now one way to reconcile the scriptural account of the journey of Jacob, is to seek for another location of the scriptural Haran, and this has been accomplished by certain travelers who find the location elsewhere.

J. L. Porter, in an account of a visit to a village called *Harrân el-'Awamîd*, or Harran of the Columns, near Damascus, gave rise to the idea that this was possibly the Haran of the scripture. Dr. Beke recognized this and determined on a visit to the spot. Here he found everything to his mind—Rebecca's well; the daughters of the men of the city, with their pitchers, going out for water at the time of evening; flocks and herds; trailing vines bearing on the wine of Helbon, and a distance of seven days from the Mount of Gilead. His conclusion was thus expressed:

"That Harrân is the representative of the place of that name mentioned in the Book of Genesis as the residence of Terah and his descendants, there is now no reasonable ground for questioning.

"The '*Awaj*' is the Pharpa of scripture, the 'river' that was crossed by the patriarch Jacob when he fled from Laban. 'And he rose up, and passed over the river, and set his face toward the Mount Gilead.'

"At the time when the seventy made their translation of the Bible, the geographical term Mesopotamia had general usage among the Greeks. Then, as the Hebrew expression 'Aræma of the two rivers' had a sort of analogy with the Greek word meaning 'between two rivers,' they identified the one with the other. But, on looking closer, we easily perceive that this term Mesopotamia does not go back to a period anterior to the conquests of Alexander in Asia.

*We draw the facts from an article by J. R. Paine, published in the *Independent* a year or two ago.

"At any rate, a collective name for Mesopotamia does not exist in Assyrian inscriptions, nor in the doctrines of the Persian kings. Why should it be otherwise among the Hebrews, who could only have borrowed the name from its ancient possessors?

"Allowing the northern one of the two rivers to be Euphrates, where was the other? At first one naturally thinks of the Orontes, which is the largest river in Syria after the Euphrates; but the Orontes is not mentioned in the Holy Scriptures. It appears, therefore, to be the river of Damascus, styled Abana in the Bible and Chrysorhoes by the classic geographers. This river separates Syria from Palestine, and every traveler going from Northern Syria toward the latter country is obliged to cross the Chrysorhoes. It is, then, altogether probable that the river traversed by Jacob, before reaching Gilead, was the Chrysorhoes.

"The distance which separated the city of Haran from Mount Gilead could be traversed in seven days; but this time is too short for reaching the Euphrates from Mount Gilead, and much more for arriving at Carrhae, a long way beyond.


"Nicolaus of Damascus preserved the tradition that Abraham was a king of that city, and Justin accepted a similar tradition that he was of Damascus origin.

Whether this position held by Mr. Porter and Dr. Beke is really the right one is an open question, yet the problem of Jacob's journey in so short a time from Haran demands some explanation, and we throw out the suggestion, not as our own, but as one advanced by others.

THE ARCH OF TITUS.

The piece of architecture which we present as a frontispiece to this number, is doubtless familiar to most of our readers. It is, however, for the purpose of drawing attention to the dividing line of history which is marked by the monument, that we have used the illustration.

Carlyle has said that "of man's activity and attainment, the chief results are aeriform, mystic, and preserved in tradition only. If you demand sight of them, they are nowhere to be met with." But we maintain that the events of history have left their ripple marks, and that these records in monuments are far from aeriform or traditionary. The events which have left their traces on this arch are, however, not merely the destruction of Jerusalem, for the commemoration of which it was erected, but we may say that the great epochs of ancient and modern history are marked by it, as by a dividing line or boundary sign.



Erected as it was so soon after the introduction of the christian era, it becomes a symbol of that stage of civilization which has passed away, and, at the same time, a token of what was to follow. The Aryan race supplanted the Semitic, and, from this date, became the propagators both of a new civilization and a new religion. Classic art soon gave way to sacred art and architecture, and even Greek and Roman culture found its limits about this time. Like the Coliseum at Rome, and like the buried cities of Herculaneum and Pompeii, this arch represents the end of classic culture, as the ruins at Olympia mark the beginning, and at the same time the golden candlesticks and the vessels of the temple, engraved upon its sides, become to us the symbols of the sacred history, while its form and purpose remind us of the secular history of the world. It may also be regarded as one of the few monuments which have become memorials of the christian era, which was already introduced. The transition from the Jewish to the christian faith, and from the pagan idolatry to the pure spirituality began at this time, and we may trace the effects both of the new faith and civilization in the monuments which follow, as clearly as we may trace events of history which had then passed in the monuments which remain.

The subject is at least suggestive, and hence we give the engraving all the prominence it deserves.

NEW DISCOVERIES.

THE MOUND BUILDERS IN MINNESOTA.

Mr. T. H. Lewis, of the St. Paul Academy of Natural Sciences, opened a mound sometime last summer near Herman, Minnesota, and found it to contain human bones, several arrow-heads, and pieces of pottery. They were all found in a circle about two feet in diameter, and surrounded by a row of muscle shells. The bones and skull are very much decayed. The mound has a five foot raise, with a circumference of two hundred and fifty-five feet. These aboriginal bones were about five feet below the surface.

INDIAN RELICS IN A MOUND.

A remarkable mound, containing a vast number of human bones and Indian relics, was uncovered about three miles east of Lanesboro, on Thursday last. Mr. Newell was plowing on his farm, and turned up a skull, which he took to town and

exhibited to Dr. D. F. Powell. The doctor went out the following day, accompanied by others, who assisted in the excavations, and as a result of their labors several wagon-loads of bones were found, indicating that the mound had been the burial place of fully six hundred human beings. The bones were all of full-grown men, there being no remains of women and children, indicating clearly that these were corpses of men killed in battle. A copper spear-head, harder than steel of modern times, a handsome pipe, and other articles, were secured by the editor of the *Lanesboro Journal*. Also many stone knives and a stone maul, of harder material than exists in this vicinity, were found. Big Fire, grand medicine man of the Winnebagos, says a great battle occurred at that place some centuries ago, between the Chippewas and Sioux, the former coming out victorious, and nearly annihilating their enemies. After the battle a trench was dug, and some six hundred warriors were piled therein. Big Fire's version of the matter looks very reasonable.—*Preston (Minn.) Republican*.

ANCIENT MAN IN MISSOURI.

The finding of numerous relics of a buried race, on an ancient horizon, from twenty to thirty feet below the present level of country in Missouri and Kansas has been noted. The *St. Louis Republican* gives particulars of another find of an unmistakable character made last spring in Franklin county, Missouri, by Dr. R. W. Booth, who was engaged in iron mining about three miles from Dry Branch, a station on the St. Louis and Santa Fé railroad. At a depth of eighteen feet below the surface the miners uncovered a human skull, with portions of the ribs, vertebral column, and collar bone. With them were found two flint arrow heads of the most primitive type, imperfect in shape and barbed. A few pieces of charcoal were also found at the same time and place. Dr. Booth was fully aware of the importance of the discovery and tried to preserve everything found, but upon touching the skull it crumbled to dust, and some of the other bones broke into small pieces and partly crumbled away, but enough was preserved to fully establish the fact that they are human bones.

Some fifteen or twenty days subsequent to the first finding, at a depth of twenty-four feet below the surface, other bones were found—a thigh bone and a portion of the vertebra, and several pieces of charred wood, the bones apparently belonging to the first found skeleton. In both cases the bones rested on a fibrous stratum, suspected at the time to be a fragment of coarse matting. This lay upon a floor of soft but solid iron ore, which retained the imprint of the fibers.

Overlaying the last found bones was a stratum of what appeared to be loam or sod, from two and a half to three inches thick, below which was a deposit of red, soft hematite iron ore, lying upon two large bowlders of hard ore standing on edge, standing at an angle of about forty-five degrees, the upper ends leaning against each other, thus forming a considerable cavity, which was filled with blue specular and hard red ore and clay, lying upon a floor of solid red hematite. It was in this cavity that the bones, matting, and charred wood were found, intermixed with ore.

The indications are that the filled cavity had originally been a sort of cave, and that the supposed matting was more probably a layer of twigs, rushes or weeds, which the inhabitants of the cave had used as a bed, as the fiber marks cross each other irregularly. The ore bed in which the remains were found, and part of which seems to have formed after the period of human occupation of the cave, lies in the second (or saccharoidal) sandstone of the Lower Silurian.—*Scientific American*.

RELICS OF THE MOUND BUILDERS NEAR JOLIET, ILL.

During the grading for the Chicago & Strawn railroad, four miles up the river from Wilmington, a bank or mound of stiff, clayey sand, about forty feet in diameter and ten feet in height, was cut into by the graders, and skeletons, pieces of pottery, and copper implements were found. The skeletons which have been unearthed are in a poor state of preservation, the largest and hardest bones only being found. On each side of the skeletons, near where the ears were, were found pieces of copper about an inch and a half in thickness, and these, it is supposed, were used as ear-ornaments or ear-rings by the ancient owners of the skulls. By the side of the skeleton, or rather where the skeleton was, belonging to this skull, was found a large kettle containing several flint arrow heads and a copper blade. The blade is about four inches in length and half an inch in thickness, tapering toward the edge from the center. The vases seem to have been made of pounded shells mixed with blue clay. Some of the vases are ornamented by scroll work nearly the same as the engravings on the outside of water-cases, and others by fancy but regular indentures. Dr. E. R. Willard has in his possession one, about five inches in its greatest diameter, four inches high, and four inches through the top, with places on the sides showing where the handles had been. Most of the skeletons are found at a depth of five or six feet, lying face downward, with the face toward the northwest. Pieces of burnt red clay, varying in shape and size, and placed about eight inches apart, surround each skeleton.

JOLIET, ILL., Oct. 22.

GOLD ORNAMENTS IN TEHUANTEPEC.

A very interesting collection of some finely wrought gold ornaments was recently found near the village of Tehuantepec. The find consists of a dozen golden statuettes, ear rings, lip rings, and many curiously wrought golden tortoises. A large golden tablet, curiously engraved with fantastic figures and hieroglyphs, probably being a history of the treasure and the cause of its being buried, and some ornaments of copper, utensils and vases of artistic form, beautifully painted, and a cup whose handle represented the paw of a cat, beautifully executed, and some hocebts of mussell shells were also found.

The treasure was covered by a mound, and in the midst of it lay the remains of a skeleton, which was evidently very ancient, as the bones at the first touch fell to pieces. The treasure is supposed to belong to a Zapitete or chief, who was probably deposited in his grave long before the Spanish conquest.

Unfortunately the largest part of the finely-wrought ornaments was taken to a jeweler and thrown into a melting pot and reduced to gold, the gold being unalloyed and nearly pure, the value proving to be about \$1000. A small golden statuette, supposed to represent the king, and a golden tortoise, a lip ring, and a few other articles have been recovered, and are now in the museum in Berlin, Germany.

ALEUTIAN MUMMIES.

The Academy of Sciences of San Francisco, California, has been made the recipient of a couple of mummies from a cave in the island of Kagamil, one of the Aleutian islands. These mummies are supposed to have been placed in the cave in 1756, about the time when the Russians were first seen by the natives. They are interesting, as they contain relics indicating the handiwork of the Innuits before they were influenced by civilization. No implements whatever were found about them.

PAGAN IMAGES IN ENGLAND.

A large statue of sandstone, nearly life size, and two Roman altars, have been discovered at York, England, while digging for the foundations of the Roman Catholic convent. The statue is supposed to be that of the god Mars, and the find probably belongs to the third century of the christian era. The heathen images may have been buried because they had become objects of hatred after the introduction of christianity.

A CANOE IN SWITZERLAND.

A fine canoe, in perfect preservation, has been discovered in the marshes near Concise, Switzerland. It is a relic of remote ages, and has been placed in the Lausanne Academy.

PERSONAL.

WE are happy to announce that Prof. J. S. NEWBERRY, of Columbia College, New York, is hereafter to have charge of the Department of Geology in this magazine. Communications may be addressed to him, or to the editor-in-chief.

DR. STEPHEN BOWERS, who, for several years, was engaged in archæological and geological explorations in southern California, and more recently in Wisconsin, has made Clinton, Wis., his home, and is publishing the *Weekly Herald*, devoted to science, literature, general and local news. During the present year he will publish a series of archæological papers in his weekly, relating to his researches in Wisconsin and California.


DR. A. BASTIAN has returned from a two years' journey in the interest of ethnology, and has reported to the German Anthropological Society the result of his observations. He has made a study of Polynesian Mythology, and says that the Polynesian circle of thought is, after the Bhuddist, the most extensive on the earth. A surprising homogeneity prevails throughout the length and breadth of the Pacific ocean, and over a part of Oceanica. There exists a direct relation between their mythology and their religion, though the knowledge of their belief is not easily gained, as the priests hide their doctrines under symbols which only the initiated can understand. This field of study is very interesting, as it is undoubtedly the connecting link between Asiatic and American ethnology.

PRINCIPAL J. W. DAWSON, of Montreal, has been giving a series of lectures on the Geology of Palestine as related to Bible History, before the students of Auburn Seminary.

PROFESSOR DAWKINS, in his visit to this country, lectured before the Lowell Institute of Boston, and the Academy of Science of New York.

MAJOR POWELL has now eight parties in the field who are engaged in the work of making a study of the North American Indians. These are scattered through Utah, Arizona, Nevada, New Mexico and California. One of these parties have just discovered, near Santa Fe, New Mexico, the largest collection of ruins ever found on this continent.

M. DESIRE CHARNAY has succeeded in uncovering a Toltec dwelling at Talu, Mexico, which was composed of 24 apartments, 12 corridors, 2 cisterns and 15 small stairways, all of them of extraordinary architecture. He also found bones of gigantic bisons, and among a lot of tiles, gutters and bricks, some porcelain ware, enamels, and the glass neck of a bottle, ornamented with the colors of ancient Roman glassware. M. Charnay is an enthusiast, and is making, evidently, the most of his discoveries, but no doubt will add to the actual sum of knowledge many valuable items of information.



LINGUISTIC NOTES.

EDITED BY ALB. S. GATSCHET, WASHINGTON, D. C.

THE tribe of the TAENSAS INDIANS on the lower Mississippi, between the Naktche and the French colony at New Orleans, La., is reported by writers of the 18th century to have been congeners of the Naktche. An abstract of their language has just been published in the *Revue de Linguistique*, of Paris, vol. xiii, pg. 166-186, which proves that this statement is entirely unfounded, for there is no connection between the languages spoken by either tribe. The reason why the French colonists of that epoch believed in such an affinity was the similarity of their idols, sun- and fire-worship. Mr. Parisot, who has published these linguistic dates from ancient family documents, states that no real adjective exists in Taensa, but that participles and nouns are used instead; that in the substantive noun there are two "genders," the noble and the ignoble, the latter comprehending women, female animals, and all inanimate things. By appending certain suffixes a noun of the noble gender can pass into the ignoble gender. The tenses of the verb are marked by prefixes of an adverbial nature, the modes and voices by suffixation. A verb *to have* does not exist, nor does the substantive verb *to be*.

PROF. FR. MÜLLER's "Outlines of Linguistic Science," a comprehensive work, of which mention has been made in the ANTIQUARIAN, vol. I, pg. 183, has now reached part second of volume II. In its last number, containing 160 pages, the author treats exhaustively of the Malay-Polynesian family of languages, and regards as the highest-developed branch of it the Malay or western group, because the word-formative process is going on by prefixation and by suffixation of real affixes, not of particles only, as we see it done in the eastern or Polynesian branch. The Melanesian languages occupy a middle position between the two.

THE CAMPO tribe, on the affluents of the Ucayali, in eastern Peru, east of the Andes, speak a vocalic language, of which only little was known up to the present time. This tribe is in a half-savage condition, and lives in the same latitude as the city of Lima. Charles Wiener, the French explorer, has published in his splendidly-illustrated work, *Le Pérou et la Bolivie*, Paris, 1880, a series of about 200 Campo words, which will prove useful for linguistic comparisons.

ETHNOLOGIC NOTES.

THE unsolved problem: "Which was the country anciently held by the Indo-European people before its segmentation and emigration?" has been discussed by Mr. Piètrement, in a separate volume: *Les Aryas et leur Première Patrie*, Paris, 1879. His inquiries have led him to assume that the *Airyâna Vaêja* lay west of the Balkash Lake, in the southwest corner of what is now Siberia, about the 40th degree of latitude, in the district of Alatau. From a series of geographical names to be found in the Zend Avesta, the author then attempts to trace the migrations of the Aryans to the dwelling places which they occupied at the dawn of the historical epoch. A critic in the *Revue de Linguistique*, xiii, pp. 279-307, Mr. C. DE HARLEZ, who is evidently a specialist in Eranic science, contends that the *Airyâna Vaêja* was not, and cannot be proved to be the country anciently held by the Indo-European race. Nor was the *Aryâvarta*, which is mentioned in Sanskrit books, the ancient home of this race, for the *Aryâvarta* lay south of the Ganges. This critic is of the opinion that all the passages of the Avesta on which Piètrement bases his results are not of a historical, but of a purely mythic character, even where the events are localized by means of geographic names.

GENERAL REVIEW.

THE MEXICAN BACCHUS.

The *North American Review* for October has a cut of a statue or idol which may furnish a clue to the early history and connection of the native races of Mexico and Yucatan, and of the Asiatic continent. It represents a nude man lying horizontally on his back, with legs flexed upward and the soles of his feet resting on the ground, and holding in his hands a round vessel or bowl. This statue, found in Yucatan, has two exact counterparts, one of which was found in Tlascala and another in Mexico—and the supposition of many, M. Charnay among the number, is that the three images represent a divinity which was worshipped in Yucatan, Tlascala and in Mexico as the God of Wine.

Gama, in his work on the ancient monuments found in the Plaza of Mexico when it was graded, in 1790, thus describes the Mexican God of Wine: "The idol represented by this statue is the God of Wine Tezcatzoncatl, which means mirror locks, and he was the first God of Wine, or one of the Gods of Wine, hence his name of Tezcatzoncatl Ometochli." The figure, says Gama, seems to be a faithful copy of the original, worshipped in its proper place in the temple. The head appears to be covered as with a convex mirror or with burnished metal of some kind, if we are to judge by the polish of its surface. The ornaments of the ears, necks, arms and legs are different from those worn by the other gods. But what especially distinguishes him is the basin full of liquor which he holds in his arms, and in the bottom of which, as in a mirror, is seen represented the paneled roof of the temple.

The statue found in Mexico has the ornamentation and position of the other two, and besides this, it bears around the base, figures of frogs, a fish, mollusks and other aquatic things, and sculptured ears of maize.

Thus the idol bears the maize and the various products of the lakes, which were always the chief food of the Mexicans, and it carries a vessel which we must imagine to be filled with their favorite beverage. Hence we may infer that this is the God of the Harvests and of food in general.

We find that this divinity, the God of Harvests, had, according to the historians Iahayn Torquemada and Hernandez, a special cultus in one of the seventy-eight chapels of the great temple at Mexico. His name, according to Torquemada, signifies polished and shining mirror.

The opinion of M. Charnay that the statues represent this god of wine, is based upon the fact that the three statues are absolutely identical in their essential characters, and that the three statues were found in three different countries, for it is not reasonable that if it were the statue of a king of Yucatan that the Mexicans would worship it as a god. The statue found in Mexico is much older in appearance than that in Yucatan, and this has led some to suppose that the Toltecs or Mayas, when they emigrated from Mexico to Yucatan, carried their worship of this divinity with them, but formed a new statue of him in their new home.

THE PREVALENCE OF SPIRITUALISM AMONG THE SHAMANS OF ALASKA.

Rev. Dr. Jackson, in his lecture before the Chautauqua Assembly, makes the following assertions, which may be regarded as explanatory of his description already given in the ANTIQUARIAN:

The religion of the Indian tribes proper and the Esquimaux, is that of paganism, similar to the fetish worship of Africa. They believe in dreams and signs and tokens, and they have something akin to idolatry, although idolatry symbolized is very rare among them. They pin their faith largely to their medicine men, who gain control over the people by superstition and witchcraft. They claim to have the power of the spirits of men. For instance, a noted warrior dies, and there is a strife among the medicine men as to which shall get possession of his body, and they eat a portion of it, by which they think they get possession of the spirit that once occupied it, and the more human bodies they can eat of, the more spirits they are supposed to control. The man that claims to control twenty spirits is, of course, more influential than the man who has only five or six. They have a mask grotesquely made to represent each of those spirits. When one of these men is called in to heal a person who is sick or supposed to be dying, he puts on a mask and goes through his incantations over the sick one; and if he does not get well, he says the spirit is not strong enough, and he takes off that mask and puts on another, and so he goes through the whole range of his masks, and if he finds none of them avail, and the sick man does not get well, somebody has bewitched him; and they have more power than all of these spirits. Then a sketch is immediately made of the supposed witch, and when the witch is caught, it is tortured and destroyed piecemeals, and brought thus to death.

ORIENTAL MUSIC.

The *Popular Science Monthly* for December has an article on Oriental Music, by S. Austin Pearce. The author states that the study of oriental music is made difficult from the mass of symbolism which overlies the subject. The Chinese compared at a very early period the twelve notes of the chromatic scale to the lunar zodiac, and the musical sounds to the weather of each month. They also make the notes represent the officers of government—*fa*, the Emperor, *sol*, the minister, &c. The Hindoos placed the presiding deity of each note in the heavens, and ascribed miraculous effects to certain melodies or Rayas, each having a power over rain, harvests, sun, and wild beasts. The Greeks, Chaldeans and Egyptians believed in the music of the spheres. Pythagoras refers to the fact that the middle string of the lyre typified the sun, and the others the planets. On the history and development of musical instruments the author speaks of the bowstring of the warrior, the hand-clapping of the audience, the simple reed, or pipe, as the probable beginning of each class of instruments.

PROCEEDINGS OF SOCIETIES.

The *National Academy of Sciences* met at Washington Nov. 17. Papers were read by Profs. A. Agassiz, B. Silliman, James Hardy, Wolcott Gibbs, Henry Marten, J. E. Hilgard, Lieut. Schwatka, and others. No paper on archæology or anthropology was presented. Among those present were Prof. J. S. Newberry, O. C. Marsh, J. H. C. Coffin, U. S. N., Geo. F. Barker, Chas. A. Young, Edward C. Pickering, Edward D. Cope, H. H. Newton, John W. Draper, Dr. J. H. Trumbull, and others.

The *Kansas Academy of Science* met at Topeka November 11th. The following papers on archæology were read: The Judith River Group, by Charles Sternberg; Traces of the Aborigines in Riley county, by Prof. G. H. Failyer; Fragments of Pottery on the Upper Solomon, by W. C. Tillotson; On Some Implements found in Trego county, by Mr. Scrooge; and the address of Col. Theo. S. Case on the ancient city of Pecos, New Mexico. Other papers were read by Pres't Fairchild, of the Agricultural College; by Prof. John D. Parker, Dr. John Fee, Prof. Snow, Mr. Eli H. Chandler, Judge Adams, H. B. Hilton, B. B. Smith, J. C. Cooper, and Prof. Carruth; tributes to the memory of Prof. Mudge were also presented. The following officers were elected: J. T. Lovewell, President; E. H. Popencoe, Secretary; R. J. Brown, Treas.

The *Leavenworth Academy of Science* met November 17. The following subjects are assigned for future sessions: Rome, illustrated, by Dr. Tiffin. Old Egyptian theory of Creation, Dr. W. W. Backus.

The *Kansas City Academy of Science* met in Oct., and a paper was read by Theo. S. Case on an excursion to the birthplace of Montezuma.

The *St. Louis Academy of Science* met Nov. 18. Mr. Albert Todd, Pres't, Prof. Nipher, Secretary.

Major J. W. Powell has gone to the Pacific coast to look after the parties now engaged in taking the census of the Indians, and in ethnological work. Eight such parties are in the field. In New Mexico they have discovered the largest collection of ruins ever found on this continent.

British Archæological Association.—The Thirty-seventh Annual Congress of this society was held at Devizes, August 16th. Papers read by Dr. Stephens on the "Discovery of Palæolithic Flint Implements, with Mammalian Remains," in the Reading drift; by Mr. J. A. Picton, on the "Ethnology of Wiltshire as Illustrated in its Places' Names"; on the recent discovered Viking ship, by Mr. Loftus Brock; on "Existing Analogues of Stonehenge and Avebury." Visits were made also to the Wansdyke, an ancient earthwork which extends across the county of Wilts from the Severn to Inkpen, in Berkshire; to the old Roman road some two miles distant; to the great Avebury circle, and to Silbury Hill. The opinion seems now to gain ground that this mound (Silbury Hill), which is the largest artificial mound in this country, and the great ancient stone circle at Avebury, mark the sites of the principal places of ceremony for the more ancient inhabitants of Mercia, and that the latter place stood as a kind of an ecclesiastical capital. The society also visited the world-renowned temple of Stonehenge, where a discussion was held in which Mr. T. Morgan, Lord Nelson, Prof. Rupert Jones, Mr. W. Money and Mr. Wright took part.

The Yorkshire Archæological Association.—The annual excursion of this society took place on Wednesday, August 25th. Among the places visited was the site of the old Roman Encampment at Templeborough, supposed to have been formed by Agricola. The remains of a Roman prætorium were unearthed about two years ago. Papers were read on the subject by Rev. W. Blazeby and Mr. J. Leader, F. S. A.

The Bradford Antiquarian Society reports a "find" near Thornton. The "find" comprised pottery, supposed to be of pre-Roman origin. There were several funeral urns, two of them being about fourteen inches in height, nine inches across the top, eleven and one-half in ches at widest part of bowl, and six inches at foot; one being of sunbaked clay; with very rude markings.

The Royal Archaeological Institute met July 1st. Papers were read by Mr. F. C. J. Spurrell on "Notes on Implements and Chips from the Floor of a Paleolithic Flint Work Shop"; by Prof. B. Lewis, "Notes on Antiquities in the Museum of Palermo"; by Mr. Petrie, on "Plans of Earthworks and Stone Remains of Kent, Wiltshire and the Lands End."

Society of Antiquaries.—June 17th reports excavations near Brough, which resulted in the discovery of two or three curious cists containing skeletons, with the vessels for food, as usual, by their side, and implements and pottery of a rude type. Also, the examination of a Roman camp on the sea coast, near Maryport, with a mutilated inscription of the XXth Roman legion, and the foundation of a Roman road. Also, the discovery, in a cist in the neighborhood, of rude implements of the Bronze period.

Society of the Antiquaries of Scotland.—May 9th Dr. R. Angus Smith read a paper on "Stone Circles at Durriss." One of these, nearly perfect, fourteen yards in diameter, has five stones still standing. A second circle, sixty feet in diameter, has five stones standing, the highest five feet high. A third circle is composite, consisting of a large circle enclosing two smaller ones. The main circle is twenty-seven yards in diameter. Burials were found in this circle, and a cist built of boulder stones; another circle, forty-eight feet in diameter, with six standing stones; and still another, twenty-four yards in diameter, with five stones remaining. Mr. J. R. Findlay describes a discovery of a large urn, with elaborate ornamentation, within a large mound at Stenton. The mound was one hundred and ten yards in circumference, twelve feet high, and contained near the level of the original surface a square cist in which were the urn, a flint knife, and a whetstone partially perforated.

Cambridge Antiquarian Society.—May 24th Prof. Hughes, F. S. A., made remarks upon the manufacture of pottery in the Pyrenees. The primitive modes common among rude tribes may be learned by the practice of making pottery, still common among the people of the Pyrenees.

Mr. N. Goodman exhibited some burial urns found near the mouth of the river Amazon, on the island of Marajou. One of these had on its borders designs of a key of Greek pattern. The pottery of these vessels and their ornamentation proved them to be the burial urns of an ancient people. The aboriginal Indians have ceased to exist with anything like tribal relations, or distinctive customs, for more than a century, and have become mixed with the Brazilian people. A wide-spread civilization once extended from Central America through the lands of the Incas, and along the Andes, but has shriveled and totally disappeared at the rude civilization of the west, whose forces were wielded by the Spaniards under Cortes and Pizarro. It is supposed that these vessels found at the mouth of the Amazon were manufactured by those who had relations with the ancient people of Peru, Granada, Central America and Mexico.

Mr. Goodman called attention to the many points of correspondence between the Egyptian arts and customs and those of the South American ancient races. Mr. Griffith exhibited two urns from Peru from the tombs of the Incas of similar pottery, and with coatings of fine clay, of red and light yellowish color, exactly similar in this respect to those exhibited by Mr. Goodman. He suggested that the key pattern might have arisen from a repetition of lines representing in a conventional way the eyes, eyebrows and nose, comparing the Anglo-Saxon ornament springing from the same origin, passing through the *T* (upsilon) on their coins and culminating in the Fleur de lis.

New Castle Society of Antiquaries—August 25th a report was given of the remarkable discovery of bronze weapons and female ornaments near Wallington, on the 14th of May, consisting of fifteen axe-heads, four spear-heads, three sword-blades (two with handles) and three female ornaments, and later on in the year another spear-head. These relics are supposed to be older than the Roman period, when iron was in general use, but not so old as the stone period.

ANIMAL WORSHIP AND ANIMAL TRIBES AMONG THE ARABS
AND IN THE OLD TESTAMENT.

The *Journal of Philology*, Vol. 9, No. 17, has an interesting article upon this subject by Mr. J. Robertson Smith, from which we take the following quotations:

The author says Mr. J. F. MacLennan, in his essay on the worship of plants and animals, in the *Fortnightly Review* for 1869 and '70, lays down as a working hypothesis that the ancient nations came through the totem stage, or, in other words, that they came through that peculiar kind of Fetichism which has its typical representation among the aborigines of America and Australia. The totem or kobong of these peoples is an animal or plant or heavenly body, appropriated as a fetich to all persons of a certain stock. These persons believe that they are descended from the totem, who is revered as a protector and friend, and whose name they bear. The line of descent is through the mother, who gives the totem to her children. Persons of the same totem are not allowed to marry. Where the system exists in this typical form, every group necessarily contains persons of different totems. But a change in the system of kinship, along with other circumstances, may operate, as is seen in observed instances, to produce homogeneous groups, inheriting a single totem and totem name from father to son. Again the totem god of a dominant stock may come to command the worship of all the tribes in a group, the other tribal gods forming subordinate deities, as in Peru. Thus, little by little, the features of the original system may be obliterated, till the connection between the animal gods and tribes bearing an animal name is no longer apparent. Mr. MacLennan has brought evidence to prove that from the earliest times in very many cases, and in the most widely separated races, "animals were worshipped by tribes of men who were named after them, and believed to be of their breed." This conclusion, taken along with the prevalence of the totem system in modern savage races over a large part of the globe, opens up a line of enquiry of the first importance, and suggests points of view for the study of ancient religions.

I am not aware that any recent writer on Semitic religions has directed his attention to the questions suggested by Mr. MacLennan's speculations. There is a controversy whether Semitic heathenism is purely astral, or whether it also includes telluric elements; but the latest advocate of the astral theory, Count Baudissin, pursues his argument without any consciousness of the important connection that subsists between plant or animal worship and totem tribes. Nay, he puts the animal worship of the Semites altogether aside, with the remark that "nothing is yet known of a sacred character being ascribed to living animals among the Semites, and when the gods are figured in animal form, or accompanied by animals, the animal can be more or less clearly made out to be a representation of the attributes of the celestial gods." Now it will of course be admitted that among the Semites animal gods were largely identified with astral powers. But this by no means proves that from the first the animal was a mere emblem of heavenly attributes. On the contrary the religion of Peru affords unambiguous examples of the elevation of totem gods to the skies, on the theory that "there was not any beast or bird upon the earth whose image did not shine in the heavens." And it is strange that Baudissin should deny that living animals had sanctity among the Semites, when he has occasion in the very same essay to speak of the sacred fish so common in Syrian sanctuaries, and of the horses of the sun among the Jews.

Now if the astral character of Semitic animal gods is in many cases no more than a theory, and a theory which at best is not conclusive as to the original character of these deities, it becomes a matter of great importance to ask if we can find any traces of a belief that the animal gods were progenitors of tribes which bore their names. In that case the theory that the animal forms are mere pictures of divine attributes, must fall to the ground; for a tribe would not claim to be the offspring of an attribute, but of the god himself under his proper name. The probability is that among the Semites, as in other parts of the ancient world, and notably in Egypt, animal worship and animal tribes were associated. My results are remark-

ably confirmatory to Mr. MacLennan's theory; a theory framed almost absolutely without reference to the Semitic races. I start from Arabia, because the facts referring to that country belong to a more primitive state of society than existed in Israel at the time when the Old Testament was written, and because in Arabia, before Islam, we find a condition of pure polytheism, and not, as in Israel, the struggle between spiritual religion and the relics of ancestral heathenism.

Moreover, the first point is to show the existence of animal tribes or families, and hence it is convenient to begin with the Arabs, among whom a very great number of such tribes are found. The following examples are gathered from the Suyuti's dictionary of gentile names, and makes no pretense to completeness:

Asad, lion; "a number of tribes." *Aws*, wolf; "a tribe of the Ancar," or Defenders. *Badau*, ibex; "a tribe of the Kalb and others." *Tha'laba*, she-fox; "a name of tribes." *Garad*, locusts; "a sub-tribe of the Azol." *Thawr*, bull; "a sub-tribe of Hamdan and of Abel Manah." *Gahah*, colt of an ass; "a sub-tribe of the Arabs." *Hida*, kite; "a sub-tribe of Murad."

The origin of all names is referred, in the genealogical system of the Arabs, to an ancestor who bore the tribal or gentile name. Thus the *Kalb* or dog-tribe consists of the Beni-Kalb—sons of Kalb (the dog), who is, in turn, son of Wabra (the female rock-badger), son of Tha'laba (the she fox), great-great-grandson of Qoda'a, grandson of Saba', the Sheba of Scripture. A single member of the tribe is Kalbi—a Kalbite—*Caninus*.

Such is the system. But can we assign to it historical value? Is the ancestral dog a real personage or a mere personification of a dog ancestor, the eponym of a tribe which at one time really thought, like the North American Indians, that it was sprung of an animal stock? A conclusive argument against the genealogical system is that it is built on the patriarchal theory. Every nation and every tribe must have an ancestor of the same name, from whom kinship is reckoned exclusively in the male line. We may take it as certain then, that in remoter times, gentile groups were not named from an historical ancestor. Another very distinct proof is afforded by tribal names that have a plural form. Amnar, Kilab, Dibab, Panthers, Dogs, Lizards, are originally the names of tribes, each member of which would call himself a panther, a dog, a lizard. The idea of an ancestor bearing the plural name is plainly artificial, invented in the interests of a system.

Additional light is thrown on the true meaning of these tribal names, when we compare them with others in which the name is identical with that of a deity. Thus it would seem that even in the worship of the heavenly beings a way of thinking analogous to Totemism preceded the distant and awful veneration of a remote and inaccessible heavenly splendor, which Baudissin and others take as the type of Semitic religion.

The analogies now brought forward make it tolerably certain that the animal names of stocks have a religious significance. I shall now produce an instance in which the ideas god, animal, ancestor, are all brought into connection.

Now it is true that we have very little direct information connecting these facts with animal worship, and it is also true that the greater part of the information which we do possess about Arabic polytheism points rather to the worship of stones, trees, and heavenly bodies. But in estimating the significance of this circumstance we must remember the nature of the records. The followers of Islam were anxious to forget all but the mere surface facts of the old religion. Even of the great gods who had important temples of their own, and were worshipped by wide districts, we hardly know anything beyond a few names. In the last period of Arab heathenism most of the great gods seem actually to have assumed human form, and even those which retained an animal shape, like the lion Yaghuth, and the horse Ya'uqe, were no longer the property of a single stock. They had acquired a larger importance, and wars were waged for the possession of their images. This is not inconsistent with totem origin, but at such a stage of development we can no longer expect to find direct evidence of the more primitive totem worship.

There is still one important point to be noticed in comparing the ancient Arabs with the races who possess the totem system. A main characteristic of that system in its earliest forms is that totem kinship is reckoned

through the mother. We have seen that the animal names given in the tribal genealogies generally belongs to sub-tribes of different groups.

That is just what would come about on a system of exogamy where the totem name was transmitted through the mother. In fact exactly the same thing is found in North America. There is a Bear tribe among the Hurons and also among the Iroquois, and so on.

I now pass on to the Biblical data. The southern and eastern frontiers of Canaan were inhabited by tribes which had affinities both to Israel and to the Arabs.

The most interesting case, however, is that of the Horites (Troglydites), the aboriginal inhabitants of Seir, who were subsequently incorporated with the Edomites. The tribal system of the Horites is exhibited in the usual genealogical form, and the names given seem to show that they were a Semitic race. But the Horite genealogy, like the Arabic lists, is full of animal's names. And one form shows that the Horite animal tribes were conceived as introduced among the Edomites in the female line, as we should expect to be the case. I cannot of course prove the worship of the animals who gave names to Horite tribes.

These Horite or Edomite names form a bridge for us to pass over to the Children of Israel, or at least to the tribe of Judah.

We find the same distribution of stock names over a wide surface in the various tribes and districts of Israel itself. Here we must always bear in mind that our records are drawn from a time of comparatively high civilization and settled agricultural life. Thus we shall often have to deal with names of towns rather than of tribes or clans. But the townsmen formed a sort of clan, as is plain from the way in which towns figure in the genealogies.

To sum up all these scattered observations, we may say that the Arabian analogies are not merely general, but amount to the fact that the same names which appear as Totem tribes in Arabia, reach through Edom, Midian, and Moab, into the land of Canaan. Here we must distinguish between the people of Israel and the earlier inhabitants. Many of the animal names are, no doubt, of Canaanite origin, as we saw from Judges i, 35. Now we have the express statement of Lev. xviii that the Egyptians and Canaanites did form such marriages as by the Hebrew law are incestuous. In Egypt this was certainly connected with the Totem system. It can hardly have been otherwise in Canaan, for variations from the Hebrew law could not well follow any other principle than that of female kinship.

The practices condemned by the higher moral sense of the prophets were, it appears, remnants of old usage. Along with these facts we find other evidences of an ancient system of kinship through women. The presents by which Rebekah was purchased for Isaac, went to her mother and her brother. Laban claims his daughter's children as his own. The duty of blood revenge appears to lie on the kin by the mother's side.

In this connection a peculiar interest attaches to the singular history of the tribe of Simeon. Already in the blessing of Jacob, Simeon is coupled with Levi, as a tribe scattered in Israel.

This dispersion of the tribe of Simeon is most easily understood on the principles of exogamy and female kinship. While the men of other stocks separated themselves out and formed a political and local unity by conquest of territory, as strong Totem tribes sometimes have been known to do among the Indians. Simeon may be supposed to have remained in the position of a divided stock, having representatives through the female line in different local groups.

The connection between animal worship and forbidden foods is a point which calls for special investigation. In the case of the Hebrews it is well known that no one has yet given a satisfactory theory of the distinction between clean and unclean animals.

Our analysis of the testimony of Ezekiel appears to prove that superstition of the Totem kind had still a hold on the Israelites in the last years of the independence of the kingdom of Judah. I shall now attempt to show that in the time of David the kinship of animal stocks was still acknowledged between Israel and the surrounding nations. For this purpose I observe that David seems to have belonged to the serpent stock. Among his ancestors the most prominent is Nahshon, who bears the serpent name, with the usual termination.

It is a favorite speculation that the Hebrews or the Semites in general have a natural capacity for spiritual religion. They are either represented as constitutionally monotheistic, or at least we are told that their worship had in it from the first, and apart from revelation, a lofty character, from which spiritual ideas were easily developed. That was not the opinion of the prophets, who always deal with their nation as one peculiarly inaccessible to spiritual truths, and possessing no natural merit which could form the ground of its choice as the people of Jehovah. Our investigations appear to confirm this judgment and to show that the superstitions with which the spiritual religion had to contend were not one whit less degrading than those of the most savage nations.

THE GROWTH OF SCULPTURE.

Cornhill Magazine contains an article by Grant Allen, quoted also by *Appleton's Journal* for November, upon the growth of sculpture, which has some very suggestive points. From the point of view generally adopted by the æsthetic world, Egypt and Assyria are the absolute beginning of every earthly art or science. But with the rapid advance of anthropology and of what may be called prehistoric archæology, it has become inevitable that we should look farther back for the origin of things. We must push back our search far beyond the days of Sennacherib and Rameses to the nameless artists who carved the figures of animals upon bits of mammoth tusks, under the shade of preglacial caves. We must consider the Egyptian and Assyrian sculpture not as rudimentary works, but advanced products of higher developed art. The author touches upon sundry and necessary stages of early and imitative art. First, the *full face* stage of human portraiture. The Polynesians, and many other savages, have not progressed beyond this stage. Next in rank comes the drawing of a profile, as we find it among the Esquimaux and the Bushmen. Negroes and North American Indians cannot understand profile; they ask what has become of the other eye. At this second degree may also be placed the representation of animals as the Esquimaux represent them—a single side view, with the creature in what may be called an abstract position; that is to say, doing nothing particular. Third in rank we may put the rudimentary perspective stage, where limbs are represented in drawing or bas-relief as standing one behind another, and where one body or portion of a body is permitted to conceal another, of whose primitive peculiarities the Egyptian wall paintings and Etruscan vases will give us a fair idea. An Egyptian or Assyrian pond always consists of a square diagram of some water, surrounded by diagrams of trees pointing outward from it in every direction, so that some of them are placed sidewise and some of them upside down.

Corner figures, like those of the Assyrian bulls and gods, give us the earliest hint of the statue. At first, seated or erect, with arms placed directly down the side to the thighs, and legs united together, the primitive statues formed a single piece with the block of stone behind them. Becoming gradually higher and higher in relief, they at last stood out as almost separate figures, with a column at the back to support their weight. At last they assumed the wholly separate position. Side by side with these changes, the arms are cut away from the sides, and the legs are opened and placed one before the other. Gradually more action is thrown into the limbs and more expression into the features, till, finally, the cat-faced Egyptian Pasht, with her legs firmly set together and her hands laid flat upon her knees, gives place to the free Hellenic Dioscabalos, with every limb admirably molded into exact imitation of an ideally beautiful human form, in a speaking attitude of graceful momentary activity.

The author takes the position that there are three things which have had an effect on the growth of sculpture: 1st, the law of heredity; 2d, the physical environment; and, 3d, the material for sculpture. To put the concrete instance, Egyptian sculpture was what we know it to be, first, because the people were Egyptians, that is to say, Negroids; secondly, because they lived in Egypt; and, thirdly, because they had no stone to work in but granite or porphyry. Conversely, Hellenic sculpture was what we know it to be, first, because the people were Hellenes, that is to

say, Aryans; secondly, because they lived in Hellas; and, thirdly, because they worked mainly in white and fine-grained Parian marble.

Now, the Negroid race has never displayed much plasticity of intelligence, and has only produced a civilized nation in its extreme northeastern branch, where it spreads over the rich alluvial valley of the Nile, and borders most closely upon the Semitic and Aryan races. Somewhat similar is the position of the great Mongoloid family, which has developed a civilization in China alone, among the fertile plains of the Hoang-Ho and Yangtse-Kiang. Both these races seem to represent an early checked development. Each race is what it is, partly in virtue of the peculiar brain and the correlated individuality handed down to it by descent from its remotest human ancestors.

Here the second element steps in to complicate the account. At the moment when our investigation begins, the main center of civilization lay around the eastern Mediterranean. The other isolated civilizations—India, China, Mexico, Peru—had, some of them little, and others no connection with the Egyptian, Assyrian and Hellenic culture.

While we allow that the Aryan blood of the Hellenes had much to do with the differences which mark them off from the Negroid Egyptians, must we not equally grant that Hellenic civilization would have been very different if the settlers of Attica had happened rather to occupy the valley of the Nile, and that the Egyptians would have become a race of enterprising sailors and foreign merchants if they had chosen to make their homes on the shores of the Cyclades and the Corinthian Gulf?

As soon as man had passed the stage of the mere hunter or shepherd, he necessarily made his first essays in tillage on the rich levels watered by the Indus, the Ganges, the Euphrates, the Hoang-Ho and the Nile. Now, Egypt was specially marked out, even among such alluvial plains, as the natural seat of a great empire.

Developing freely at first, apart from foreign interferences, the Egyptian community produced its own social system and its own artistic school, in accordance with its own genius and the genius of the place. The richness of the soil permitted the reaping of harvests far greater than sufficed for the cultivators' use; but those harvests, instead of being exported (as at later dates) to feed the masses of Rome or England, were used to support vast bodies of native workmen.

Thus Egyptian painting, sculpture and architecture became wholly subservient to the royal pleasure, and the two former arts grew up simply as accessories to the latter in the decoration of the vast royal buildings.

We now arrive at the third element in the evolution of Egyptian plastic art—the material with which it had to deal. This, I believe, is one of the most important factors in the whole problem, and yet it is the one most persistently overlooked. The idealists who write so glibly about the national character of Egypt and of Greece forget that even an Athenian sculptor could have done little with the hard granite masses of Syene, while even Egyptians would in all probability have produced far more truthful and natural works if they had always dealt with the fine and plastic marble of Paros and Pentelicus. It is not too much to say that Egyptian sculpture has been profoundly modified by the abundance of granite, Assyrian sculpture by the abundance of alabaster, and Hellenic sculpture by the abundance of marble.

I do not for a moment mean to deny that the national character, formed by the national circumstances, did much to determine the low grade of development in Egyptian plastic art; but I think it almost certain that the nature of the material also reacted upon the national character with considerable effect. Then, again, as most of the highest architecture had also granite or sandstone for its "physical basis," the whole national art could never attain the plasticity of Hellenic genius—could never reach the grade of development which was naturally reached in the free and gracious marble temples of Ionia or Attica.

When we turn to Assyria, we arrive at a sort of intermediate stage between Memphis and Athens. Judged by the imitative standard, the plastic art of Nineveh is decidedly in advance of that of Egypt.

"Assyrian art," says Lubke, justly, "is distinguished even in its earliest works from the Egyptian, by greater power fullness and roundness in the reliefs, by a fresher conception of nature, and by a more energetic delineation."

tion of life; but it lacks, on the other hand, the more delicate sense of form and the stricter architectural law that marked the other."

The valley of the Tigris, like that of the Nile, naturally gave rise at an early period to a great semi-civilized agricultural community. But the Assyrians were a Semitic people, and the difference of race counted for something in Mesopotamia, even as it has counted for something among the monotonous flats of Upper India. In addition to this primary differentiating cause, there was a second cause in the physical conditions. Assyria is not so wholly isolated as Egypt. Though an inland country, it is not utterly cut off by the desert from all mankind, and compelled to mature its own self-contained civilization within its own limits like China or Peru.

The great river formed a highway for communication with the kindred culture of Babylon, while lines of commerce connected the Assyrian capital with the Phœnician, Hellenic and Hebrew worlds, as well as with the primitive Persian, Median and Indian empires. Hence, while the type of organization remains, as in Egypt, military and despotic, there is more individual thought and action among the people.

"Strata of alabaster abound in Assyria." This geological fact gives us the one remaining point necessary to the comprehension of Ninevite work. Starting thus from the same primitive basis as the Egyptians—the incised bas-relief painting—it is easy to see how the nature of their material, combined with the greater freedom of their intellects, led them soon to higher flights.

The features display a Negroid type, which, perhaps, points back to Egyptian models, and the treatment is far more angular than in later works. One of the lions—a corner statue forming part of a slab flanking a doorway—has a curious peculiarity which marks transition from a still more ancient and conventional style to a comparatively free and modern treatment. It has five legs. Four of these are visible as you view the animal in profile, and they are placed one behind the other, as though the creature were advancing; but two are also visible in front, one being the foremost of the previous four, and the other an abnormal fifth leg, which gives it the appearance of standing still when viewed from this aspect. Evidently the sculptor could not reconcile his mind to giving up the proper complement of legs from any point of view, and so compromised the matter by running two contradictory conceptions into one.

But no place could better illustrate the importance of material than Babylon. More commercial and probably more civilized than Nineveh, Babylon stood in the midst of a far wider alluvial plain, where no building material except brick was procurable. Marble, alabaster, granite, were all unknown. Building stone, Sir A. H. Layard tells us, could only be brought from a distance, and it consisted chiefly of black basalt from the Kurdish mountains, used for ornamental details alone. The city, as a whole, was built of brick and mud. Hence no plastic art ever developed in Babylon. Its ruins consist of mere shapeless mounds, inclosing colored enameled tiles and other traces of æsthetic handicraft; but sculpture utterly failed for want of a "physical basis." No doubt pictorial and industrial arts took somewhat diverse developments from those which they would have taken had the architectural style been more similar to that of the Assyrian capital. Tapestry seems to have been to Babylon what sculpture was to Athens and painting to Florence.

Turning at last to Hellas, we have to deal with a very different people, a different country, a different material. The Aryan Hellenes took with them to their island homes the same primitive intellectual, philosophical, and subtle minds which the Brahmins took to India and the Kelts to Ireland. All we know of the Aryan race shows us that it could nowhere be content with such a purely external life as that of the Egyptians and Assyrians. Men of that race must reflect more and feel more, and their art must, therefore, mirror more of their internal life. But these universal Aryan qualities are not by themselves sufficient to account for the specific Hellenic art. We must look for that in the physical peculiarities of Hellas itself.

Such I believe to be the true secret of the magnificent Hellenic nationality. It was an Aryan race, starting with all the advantage of the noble Aryan endowments; and it occupied the most favorable situation in the world for the development of navigation, commerce and free institutions, at that particular stage of human evolutions. It was the great emporium where met the tin of Cornwall, the gold of Iberia, the amber of the Baltic,

the myrrh of Arabia, the Silphium of Libya, the glass of Egypt, the pottery of Phœnicia, the lapis lazuli of Persia, and the Ivory of Ethiopia or the East.

Without going too deeply into the vexed question of the exact links—Phœnician, Hittite, Lydian and Ionian—which are variously supposed to connect Oriental with Hellenic sculpture, we may recognize the fact that the earliest Greek art started from the same primitive form as the Egyptian and Assyrian. The most ancient Greek bas-reliefs, like those from the temple of Assos now in the Louvre (for the famous Lion Gate at Mycenæ may possibly be the relic of a still earlier race), are thoroughly Assyrian in type, but far inferior in execution and imitative skill to the Ninevite works. In the marble monument of Aristion, at Athens, a bas-relief of the archaic type, we find a distinct advance. Though the hair and beard strikingly recall the stiff rows of Assyrian curls, the pose of the arms is natural and almost graceful.

All nations make themselves images of their gods in wood or clay, and where these materials are unattainable, in feathers, like the Hawaiians. Now, the earliest Greek gods were in wood, and from those doll-like wooden gods, as has often been noticed, descended the chryselephantine statues of Phidias, overlaid with ivory to form the face and limbs, and with gold to represent the drapery. It is quite in accordance with the usual archaism of all religious usages that these essentially wooden statues continued to the last the representatives of the chief gods in the most important temples—the protecting Athene of the Parthenon, and the Pan-Hellenic Zeus of Olympia. Nor is it a less striking fact that the chryselephantine statues seem always to have retained some traces of archaic conventionalism; that their drapery hung in folds which concealed the whole figure; and that the Zeus of Olympia himself, the most reverend god of universal Hellas, was represented, like most very ancient statues, in a sitting attitude. It is the glory of Hellenic sculpture that it ventured even in its gods to discard the sacred forms sanctified by antique usage; yet, even in Hellas itself, some traces of the conservatism natural to religion must inevitably be expected to exist. But the marble statues that form, after all, the real symbol of Hellas, are the lineal descendants of the bas-reliefs, and so had a purely architectural origin.

The archaic marble colossi, from Miletus, in the British Museum, represent Hellenic sculpture in an almost Egyptian stage, the stage in which Hellas received the rudiments of art from Assyria. The figures are seated in the attitude which we all know so well as that of Pasht. "They are stiff and motionless, the arms closely attached to the body, and the hands placed on the knees; the physical proportions are heavy and almost awkward, the execution is throughout architecturally massive, and the organic structure is but slightly indicated." The drapery wholly conceals the human form. There is not a touch in these ungainly figures which at all foreshadows the coming freedom of Greek art. They are simply conventional, and nothing more. But the ancient sitting statue of Athene preserved in the Acropolis at Athens, though much mutilated, shows an immense advance. The attitude is unconventionalized; the foot, instead of being planted flat as in the Miletan colossi, is lightly poised upon the toes alone; the limbs are partially uncovered, and the undulating folds of the drapery are clearly prophetic of the later Athenian grace.

We have reached the point where Hellenic sculpture has attained to perfect imitation of the human figure; its further advance is toward the higher excellence of ideality, expression, deep feeling and perfect appreciation for abstract beauty of form.

While in Egypt, as we saw, the regal and hieratic influence caused the primitive free manner to crystallize into a fixed conventionalism; while in Assyria it checked the progress of art and restricted all advance to a few animal traits, in Hellas, after the age of freedom, it became powerless before the popular instinct. While Egyptian and Assyrian gods always retained their semi-animal features, in Hellas the cow-face of Here and the owl-head of Athene fell so utterly into oblivion that later Hellenic commentators even misinterpreted the ancient descriptive epithets of the Achæan epic into *ox-eyed* and *gray-eyed*. But it was on the gods, as the common objects of devotion for the whole city, that the art of the republican Greek states mainly expended itself.

BOOK REVIEWS.

CATALOGUE OF GREEK AND ROMAN COINS IN THE NUMISMATIC COLLECTION OF YALE COLLEGE. By Jonathan Edwards, M. D., Curator of the Collection. New Haven, 1890.

The collecting of coins in this country has had a varied history. Private collectors have worked diligently, but their collections have no sooner reached a reasonable degree of completion than they have been sold and scattered. Like the collecting of books the profits have been mainly with the dealers. It is gratifying to know, however, that an institution like Yale College has a collection which is not likely to be soon dispersed, and that the curator, who bears the honored name Jonathan Edwards, has succeeded in publishing a complete catalogue of it.

The size of this numismatic collection can be judged of by the fact that the mere catalogue of the Greek and Roman coins in it occupy 227 finely printed octavo pages. The collection numbers some over 3,000 pieces. There is no doubt that in the study of archæology this collection will be very valuable. The coins may be like hieroglyphics to many, but to one skilled in symbolism it is a rich treasure house. The catalogue employs the geographical system of arrangement. The Greek coins represent 26 countries and 160 towns of the ancient world. There are the coins of 175 Roman emperors, 82 different Roman families. The Byzantine coins are quite numerous, but the series of the kings of Syria and Parthia are especially noticeable. The only fault we find is that the catalogue is not sufficiently explanatory.

ON THE PRACTICAL ADVANTAGES OF GEOLOGICAL KNOWLEDGE. By Prof. Rupert L. Jones, F. R. S. Reprinted from the Proceedings of the Geologists' Association.

If there were any doubt as to the value of geological knowledge, this little pamphlet would certainly dispel that doubt. Not only is there in it the classification of the science of geology with the other sciences, and the analysis of the different parts or divisions of the science, but the practical uses to which a knowledge of geology may be applied, are here set forth fully and forcibly, and yet in the briefest and most comprehensive manner.

The practical knowledge of geology embraces, according to the author, the materials which are useful, such as limestone, sandstone, clay, slate, granite, coal and metals; also the strata of rocks with relation to water supply, mining, etc., and the topography and geography of earth as produced by geological causes. The different classes to whom the science is useful are also portrayed—military men and travelers, engineers, farmers and builders, etc. The poetical features of the subject are beautifully and eloquently presented. For a little pamphlet it is a model of condensation and lucid illustration, and is well worth perusal.

THE GEOLOGICAL AND NATURAL HISTORY SURVEY OF MINNESOTA. The 4th, 5th, 6th and 7th Annual Reports. N. H. Winchell, State Geologist. Submitted to the President of the University. 1875-1890.

These volumes contain from 160 to 250 octavo pages each, with maps and diagrams and cuts, and may be compared in their shape and size to the reports of Indiana. They contrast with the bulky and costly reports of Wisconsin and Ohio and some other States. For the archæologist they may be as useful as the larger and more elaborate works. The sixth report contains a description of the celebrated Pipe stone quarry, where the stone called Catlinite is found. The history and location of the discovery of this quarry is described, but the aboriginal or traditional record is unfortunately omitted. "Primitive Man at Little Falls" fills ten pages and is illustrated by several cuts—(1) The Stone Cutters, (2) The Mound Builders.

Prof. Winchell does not give the archæological distinction of paleolithic and neolithic, but defines them in a geological sense; but on the subject of paleolithics he takes substantially the position of Dr. C. C. Abbott, and claims that the evidences of preglacial man are also discovered in Minnesota. We quote a few sentences:

"The chips are generally without evidence of designed form and nearly all the angular pieces are also destitute of all evidences of artificial shaping so far as their forms are concerned. The most certainly chipped form was taken at Little Elk River, but was of brown chert.

"The chipping race, if these chips are of human origin, preceded the spreading of the material of the plain, and must have been preglacial."

The fifth report contains an account of the rock formation of St. Anthony's Falls and a short history of the changes which have occurred since they were seen by Hennepin, in 1680, and by Carver, in 1766. The recession in the time which has elapsed, 176 years, is 906 feet, or 5.15 feet per year. The time needed for the falls to have receded from Fort Snelling at this rate would be 8,202 years.

To the geologist and to the archæologist there are many points of interest in these volumes.

KEY TO THE HEBREW-EGYPTIAN MYSTERY IN THE SOURCE OF MEASURES, DESIGNATING THE BRITISH INCH AND THE ANCIENT CUBIT. By J. Ralston Skinner. Cincinnati, Robert Clarke & Co. 1878.

THE CROWN JEWELS OF THE NATIONS ARE THEIR MEASURES. To the Memory of John A. Parker. By J. Ralston Skinner. Cincinnati, Robert Clarke & Co. 1877.

That there is a pyramid religion, there is no doubt, though whether it ever existed in the days of the Pyramid Builders as it does in the minds of its modern votaries, is exceedingly doubtful.

The science of numbers may have its basis in natural religion and the great creator may have employed geometrical proportions and mathematical principles in the creation of the universe; but that either the Pyramid Builders knew what these were, or that the Bible contains a record of them, is very uncertain. The science of numbers, the quadrature of the circle, the great Pyramid, the measure of all nations, and the Biblical application of these topics, are all important; but that they have any connection with each other is more than ordinary persons are prepared to show. Only those who have long dwelt on these occult subjects are prepared to give any opinion.

The author of these books has evidently spent much time on them and has originated many things out of his own inner consciousness. He has studied the works of Piazzi Smith, of Rev. Mr. Taylor and Mr. Seiss, but his great authority is Mr. John A. Parker, of New York, now dead.

The attempt to work out satisfactory evidences of the interference of an unseen intelligence in the fabrication of the frame-work of the Bible, and to understand the operation of natural forces in their cosmical effects, especially as referred to a primary unit source, must have involved an immense amount of profound thought and investigation.

The key to the whole problem of the universe he finds in the cabalistic numbers given by the quadrature of the circle. The sacred unit of measure in the Garden of Eden, the Ark of Noah and the Temple of Solomon is the same as that found in the great Pyramid. The primordial vestiges of them are contained in the mounds of this country, which are monumented circles and squares; also in the ansated cross of Peru. In fact the symbol of the origin of measures is the cross and at the same time in the Hebrew God-word Jehovah. In Jared, the father of Enoch, he finds the very English word "yard," and the root of this is Jah, or Jehovah, and "rod." Jehovah and Elohim also stood for diameter and circumference. "The source of this measurement lays back of historical ages. The national symbols of Assyria and Egypt show that they possessed it. The British, though the most modern, is the most ancient nationality, and the British inch is the unit of all measure."

The mysteries of numbers are evidently known to the one who has brought out so many strange facts, and those who are curious as to such occult subjects will do well to study the works produced with so much labor.

HISTORICAL STUDIES OF CHURCH-BUILDING IN THE MIDDLE AGES. VENICE, SIENA, FLORENCE. By Charles Eliot Norton. New York, Harper & Brothers. 1880.

The connecting link between modern and ancient architecture is generally supposed to be found in the sacred or church architecture of the Middle Ages. Doubtless in the historical sequence the Norman and Gothic structures of this period do connect the present with the past, but the wreck of ancient civilization was too great and the elements in the reconstruction were too diverse for us to trace either any architectural order, or even art or science, across the gulf to the earlier days. Rome may have

seen reproduced in her days of decline the forms of the imperial basilica, and Ravenna may have received from Constantinople the arts which gave lustre to the East, but the rough energy of the Lombards, the vigorous spirit of the northern races, introduced a half-barbaric order which must of itself have a growth and development before the proportions of any modern style could be reached. Doubtless the faith and the religious system of the time had much to do with the introduction of the new orders, and the study of the one in the light of the other would be necessary for the proper understanding of either. Fortunately, the author, who is so well fitted to present the subject in all its bearings, has given to the world the result of his ripe study.

Treating it both in the architectural and historical aspect, he has written a charming book, and one which must well repay the labor of preparation. Reverent in spirit, cultivated in taste, impartial in judgment and careful in statement, and yet clear and attractive in style, the volume is one which must elicit admiration and commend itself to an enlightened public. The publishers have done well also to place the book in a form suitable for the library and for permanent reference, as well as for the present reading, the type and paper size and shape being both attractive and substantial.

EARLY CHAPTERS OF CAYUGA HISTORY. Jesuit Missions in Godogonea, 1656-1686. Also, an Account of the Sulpitian Mission among the Emigrant Cayugas about Quinte Bay, in 1668. By Charles Howley, D. D., President of the Cayuga County Historical Society. With an introduction by John Gilmory Shea, LL. D. Auburn, N. Y., Knapp & Peck, 1879.

The Jesuit Relations are a series of small volumes issued in France from 1632 to 1672 and containing the reports of the superiors of the Jesuit missions.

They were issued in a cheap form and seem to have been widely circulated among the pious, in some cases several editions appearing. Those relating to America were especially popular, and served to excite an interest in the American missions which led to the establishment in Canada of the Sulpitians and other orders, and to induce many to emigrate to the country from religious motives.

These Relations are however useful for another purpose. Some of them contain the only history of certain localities, especially under the residence of the Indian tribes which we shall ever possess, and others so describe the minute events of the localities during that early period in which settlement was beginning that their record is invaluable.

The author of this book has utilized their record in reference to one locality, and that is the region embraced by the society of which he is president.

This compilation of the Jesuit records of the events which befell the missionaries is indeed valuable. Supplementing, as it does, the more general histories, such as Mr. Parkman's excellent volumes, it brings out the facts of local history forcibly, and thus makes an historical contribution worthy of study. Local histories have, as a general rule, been complete failures, and, in the hands of unprincipled speculators, have brought disrepute upon both writers and disgust to the minds of readers. The thorough and exhaustive manner in which the subject has been treated in this volume will doubtless serve to remove the impression and to bring the early records up to a proper appreciation.

A COMPENDIOUS AND COMPLETE HEBREW AND CHALDEE LEXICON TO THE OLD TESTAMENT, WITH AN ENGLISH-HEBREW INDEX. By Benjamin Davies, Ph. D., LL. D. Carefully revised, with a concise statement of the principles of Hebrew Grammar, by Edward C. Mitchel, D. D. Andover: Published by Warren F. Draper, Andover, Mass.

This Hebrew Lexicon has been compiled with special reference to the wants of beginners in Hebrew. It is about one-third the size of Gesenius', but is said by the publishers to contain one thousand more words than that lexicon. Price \$4.50. It differs mainly from Gesenius' in the absence of extensive quotations and numerous definitions. For instance, the word *Hadash* occupies about one-half a column in this, while in Gesenius' it occupies a column and a half. Under *Piel* there are two divisions, while in Gesenius' there are five. The *Hiphil* has a single line of definition, while in Gesenius' it has half a page. Another difference is the absence of Arabic

and Ethioptic characters. The book is more convenient for a student to handle, for it is in the form of a royal octavo. The study of Hebrew has been neglected. It is being made easier by the books published, and, if there is any increase in the study, the Dictionary under review should meet with a ready sale.

A DICTIONARY OF THE BIBLE, Including Biography, Natural History, Geography, Topography, Archaeology and Literature. With Twelve Colored Maps and Over Four Hundred Illustrations. Edited by Philip Schaff, D. D., LL. D. Philadelphia, American Sunday School Union.

This is a new work prepared by several gentlemen in the library and under the direction of Prof. Schaff, and designed especially for the use of Sabbath schools. It does not undertake to give elaborate treatises, but may properly be called a Bible dictionary since the largest part of it is but the repetition of the teachings of the Bible in a dictionary form. Information on such articles as do contain information from other sources are compiled from books and other publications in a brief and comprehensive manner.

The whole work is written with a simplicity and freedom from technicalities which will render it useful to the class for which it is designed. It is in fact in its general style and make up very much like the old "Bible Dictionary" published by the same society, but now out of date, except that it is adapted to the present stage of advanced learning in Oriental and Biblical subjects. The articles in archaeology and sacred geography are well prepared and furnish much instruction as to the latest results of study in these lines. The cuts are well executed and the general appearance of the book is somewhat attractive.

AN EXAMINATION OF THE ALLEGED DISCREPANCIES OF THE BIBLE. By John W. Haley, M. A. With an Introduction by Alvah Hovey, D. D., Professor in Newton Theological Institute. Third Edition. Andover: Warren F. Draper. 1881.

This is another of those contributions to the literature of Christian apologetics which have increased so much for the last few years. The work was begun by the author as a course of lectures which were designed as an answer to a pamphlet on the so-called self-contradictions of the Bible; but it soon grew to the formidable task of preparing a book "which covers the whole ground in a comprehensive and yet concise manner, while it is at the same time adapted to general circulation." The method of treatment is doctrinal and topical rather than historical or chronological. As the book was prepared this method doubtless seemed the most practical, but for the general reader the latter method would have been preferable. The author, in reconciling the discrepancies, refers extensively to the explanations of commentators and often quotes from these commentaries, which are accessible to most clergymen.

The book is valuable for its examination of the specific passages wherein discrepancies are alleged, and for the compilation of the opinions of the authors who are authorities on the subject. That it has proved useful is evinced by the fact that it has reached the fourth edition.

MITTHEILUNGEN AUS DER ANTHROPOLOGISCHEN LITERATUR AMERIKAS. Von Dr. Emil Schmidt, in Essen, a. d. Ruhr.

Dr. Emil Schmidt has, in this folio pamphlet of twenty-two pages, given a resumé of American literature in the department of archaeology and ethnology for the last two years. Among the titles are the following: "Annual Reports of the Trustees of the Peabody Museum for 1868 to 1878"; "The Proceedings of the Davenport Academy of Science, 1867 to 1876 and 1876-7"; "The American Antiquarian, vol. I, Nos. 1, 2 and 3"; and "The American Naturalist." This review by the eminent scientist is, we understand, to go into the permanent archives of the Anthropological Society of Germany, and to constitute a part of a larger work on the literature of anthropology.

The "Archiv für Anthropologie" has made it its task to publish, besides original treatises, also full periodical accounts of foreign literature concerning anthropology, ethnology and archaeology.

Dr. Emil Schmidt has been entrusted with the drawing up of the accounts of this branch of American literature.

Authors and literary societies who will send him publications on these subjects will considerably promote the purpose of spreading anthropolo-

gical knowledge. They are respectfully requested to give their aid by sending copies of anthropological treatises, every one of which will be thankfully received.

LANDA'S ALPHABET, a Review, by Dr. C. Valentini. New York: 1880.

When the Spanish missionary Landa destroyed the manuscripts of the Mayas, in the presence of their sorrowful and helpless owners, he did irreparable damage to the records of the ancient civilization of this continent. The loss of these records has been compensated for in the opinion of some by the gift of a key to the Maya hieroglyphics, which the bishop is supposed to have left. This has been, indeed, regarded so reliable as a key that some of the French archæologists, such as MM. Bollaert, de Rosny, de Charencey, have imagined that they could by its aid decipher the inscriptions at Chichen Itza, the tablet of the cross at Palenque, also the Dresden Codex and other Maya manuscripts, and these gentlemen have given various interpretations of the inscriptions. But Dr. Valentini, of New York, comes out with a brochure in which he dashes our hopes to the ground and leaves us in painful doubt whether the key itself is not a forgery. To be sure there are some suspicious circumstances about this so-called Maya alphabet, as for instance that it so nearly resembles the English in the order of its letters, and that the reading of the Mayas should be like the English from left to right.

If the alphabet is a forgery, it is gratifying to know it, for it is likely that now the study of hieroglyphics will begin from the first principles, and it is possible that if the symbolism contained in these hieroglyphics come to be understood, that we shall know much more about the origin of writing in this country than if we could decipher the inscriptions without any such study.

Dr. Valentini is himself following up this line of investigation, and it is to be hoped that he will yet give something that will be a substitute for the Landas alphabet.

*A Sketch of the Modern Languages of the East Indies accompanied by two Language Maps. By Robert N. Cust. Trübner & Co., London, 1878.

The author of this volume, which is the fourth in Trübner's Oriental Series, announces himself as an "old Indian," who, after twenty-five years of experience in the Indian civil service, returned to England, and finding himself without occupation, cast about to see what he could do for the country which he had left—a sensible thought which it were well if all her Majesty's Indian servants entertained. A favorite study in former years had been language, and to this he returned. His foreign experience had made the acquisition of many languages both easy and necessary. "My stock in trade," he says, "was a good knowledge of twelve languages—six European, six Asiatic—a good memory and a great passion for the study." A happy inspiration suggested to him that to collect, sift and classify the facts regarding the languages of the East Indies, which were scattered through numberless volumes, magazines, and transactions of learned societies, would be useful to others interested in such studies. Access to the unsurpassed collections of the British Museum and the India Office, correspondence with friends in India, and consultation with eminent scholars on the continent, afforded unusual facilities for a thorough canvass of the field. The results of the author's conscientious industry are contained in the book before us.

Few persons have an adequate idea of the difficulty of arriving at certain conclusions in such a field as the one chosen. The area covered; the density and variety of the population; the gradation of life from civilized to savage, with the instability which that involves; the interlacing of languages and dialects; and the want of full information regarding some tribes, whose speech, never reduced to writing, is attested only by brief vocabularies gathered often by unskillful observers, are each and all ever present sources of embarrassment. Hence the results of the most painstaking inquiries must be regarded as provisional in many details, a fact which the author recognizes with becoming modesty.

The field surveyed is a very broad one, including Hither India, with the border countries of Afghanistan, Beluchistan and Tibet; Farther India, the Indian Archipelago, and the Island of Madagascar.

The author divides the languages spoken over this vast region into eight families, based upon supposed affinities of race. They are Aryan, Dravidian, Kolarian, Tibets-Burman, Khasi, Tai, Mon-Anam and Malayan. The Aryan family is divided into the Iranic, consisting of two languages, the Pushtu and Baluchi, with eight dialects, and the Indic, consisting of fourteen languages and one hundred and twenty-five dialects. Of the latter division three languages belong in the mountain region northwest of India; two are spoken south of the Vindhya range; one, the Brahui, is the vernacular of a small tribe in Beluchistan whose right to be classed among Aryans is much disputed; the Singhalese is spoken in the southern half of Ceylon, and the remaining seven languages and ninety-six dialects are all used in the region between the Himālaya and Vindhya ranges.

The Dravidian family occupies southern India and northern Ceylon, and numbers fourteen languages and thirty dialects. The Tamil is the best representative of this group. It is thought that the Dravidians once occupied a wide domain in India, but were crowded into their present position by Aryan encroachments.

A third layer of population is called Kolarian and consists of rude tribes living mostly among the hills of Central India. They represent very early, if not the earliest, settlers of the country, and are too little known to permit more than a provisional classification of their languages. The number is set at ten, with five dialects.

The people speaking the Tibets-Burman languages cover an extensive territory, stretching from Tibets on the north around, and partly including, the province of Assam to Burmah and the Andaman islands on the south. The family is divided into eighty-seven languages and eighty-four dialects.

The Khasi family occupies a little district on the hills of Assam and claims for itself one language and five dialects. The Tai family is another small group which is spoken over a narrow district extending from near the eastern borders of Assam to the Gulf of Siam. It comprises seven languages and six dialects. The Mon-Anam family, numbering twenty languages and four dialects, is somewhat divided by an intrusion of the Tibetan-Burman and Tai families, but is chiefly found on the eastern border of Farther India, in the provinces of Cochin-China and Cambodia.

The last family, the Malayan, covers the Indian Archipelago from Sumatra, on the west, to the Philippines and Formosa, on the east. To these must be added the peninsula of Malacca and the island of Madagascar. This family numbers eighty-eight languages and twenty-nine dialects. We have thus a grand total of five hundred and thirty-nine languages and dialects named in this work, of which nearly two hundred are spoken within the limits of British India. It is not pretended that this list is definitely fixed, many names being entered as doubtful; but after eliminating everything uncertain, enough remains to show the exceeding richness of this field for linguistic and ethnological study. Of course in a book of one hundred and ninety-eight pages the author has touched only lightly every part of the field. Its value consists chiefly in its clear and systematic outline of the subject, and the full citation of authorities with whom the scholar may study the details. A selected list of works forms one of several valuable appendices. Two valued language maps furnish welcome aid to an understanding of the text.

VOCABULARIO DE LA LENGUA MEXICANA. Compuesto por el P. Fr. Alonso de Molina. Publicado de nuevo por Julio Platzmann. Edición Facsimilari. Leipzig, B. G. Teubner, 1880. Paged recto only: part first, 122 pages. Part second, 162 pages.

The literature of the aboriginal languages of America has of late been enriched with a series of important publications, among the most valuable of which must be counted the fac-simile republication of the "Aztec Dictionary" of the friar Alonso de Molina, second edition of 1571. The original of this work heretofore afforded the principal help for the study of the Aztec language in its most highly cultivated dialect, that of Anahuac. This quarto had become quite scarce and high-priced; much rarer still, and almost unattainable, is the first edition of 1565, which was published in the shape of a moderate octavo volume. Bernardino de Sahagun had translated portions of the Bible into Aztec in the sixteenth century, at a time when Aztec had undergone but few of the foreign influences expe-

rienced since the conquest, and Biondelli published this text with the dictionary at Milan, 1858, 4°. But this dictionary contains only the Biblical words, and, therefore, does not comprehend many of the national and enchoric terms so important for the ethnologist and linguist. The printed Aztec literature is the most extensive of all the literatures of aboriginal languages, though almost exclusively religious, and hence the Americanists will hear with interest of this new edition of both parts, Spanish-Aztec and Aztec-Spanish, together with all the title-vignettes, prefaces and additions, which contain a great deal of grammatical information. Should Mr. Julius Platzmann, to whom the republication is due, produce in the same manner some of the more notable Aztec texts and the catechism on the western dialect of the State of Jalisco, he would aid considerably the present revival of the Americanist studies, to which he has contributed his share by the re-editing of old South American grammars and dictionaries; for all these books are just as exceedingly scarce as they are valuable, and the study of a language without any texts on which to base it, is, to say the least, a most unsatisfactory thing. According to an average calculation the Aztec-Spanish part alone must contain 50,000 words or items.

Prices: 50 marks, in Leipzig (pamphlet, not bound); on hand-made paper, 80 marks, in Leipzig.

A. S. G.

J. W. POWELL, Introduction to the Study of Indian Languages, with Words, Phrases, and Sentences to be Collected. Second Edition, with Charts. Washington, Government Printing Office, 1880. 4to.

This volume contains a very large number of blank forms to be filled by collectors, and is valuable on account of its hints for ethnographic researches to be combined with the linguistic work. Special attention is devoted to the elucidation of the terms in use for the degrees of relationship. The volume, with its 77 pages of linguistic and ethnologic introduction, and its 150 pages of blank schedules, will be sent free of cost to any person desirous of making researches of this character among the tribes themselves, and requesting a copy of it from the *Bureau of Ethnology*, P. O. Box 585, Washington, D. C.

A. S. G.

P. LEPAGE RENOUF, The Origin and Growth of Religion, as illustrated by the Religion of Ancient Egypt. New York: Scribner, 1880.

A standard volume, deserving the most attentive and careful perusal by all archaeologists and ethnologists. The author, who is a specialist of no common attainments, has put forward many new and bold ideas on ancient religions, worship and culture, which he upholds by strong, and as it seems, incontestable reasons. He disclaims all relationship between the Shemitic languages and the Egyptian. The real meaning of the Egyptian term for God, *nutar*, is that of *strong*, *strength*, and hence it is identical with the Hebrew *el*, and the Sanskrit *Brahman*, "power." The original meaning of the Greek *εἰρὴς* is not *holy*, but *strong*, *powerful*. The Egyptian phrase *nutar nutra* corresponds exactly in sense to the Hebrew *El Shaddai*, the very title by which God tells Moses that He was known to Abraham, Isaac and Jacob (pg. 103.) "Throughout the whole range of Egyptian literature, no facts appear to be more certainly proved than these: (1) That the doctrine of one God and that of many gods were taught by the same men; (2) That no inconsistency between the two doctrines was thought of. Nothing, of course, can be more absurd, if the Egyptians attached the same meaning to the word God that we do." (P. 96.)

A. S. G.

VOCABULARIO DE LA LENGUA AYMARA. Compuesto por el P. Ludovico Bertonio. Publicado de nuevo por Julio Platzmann. Edición Facsimilaria. Leipzig: B. G. Teubner, 1879. 8°. First volume, Spanish-Aymara, 473 pages. Second volume, Aymara-Spanish, 399 pages. Both originally printed in Tuli, Peru, in 1612. The third volume contains the Grammar of the Aymara Language, composed by Bertonio, and printed in Rome in 1663, 319 pages.

The dialect of Aymara, in which Bertonio composed his volumes, was that of the Lupacas, one of the most polished of all these dialects. Aymara certainly belongs to the Kechua family of South American languages; but the Lupaca dialect furnishes but a few words which coincide with the Kechua dialects as known to us.

A. S. G.

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APRIL, 1881.

No. III.

THE
American Antiquarian
AND
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EDITED BY
REV. STEPHEN D. PEET.

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We would call attention to the fact that the AMERICAN ANTIQUARIAN and the ORIENTAL AND BIBLICAL JOURNAL are hereafter to be combined, the ANTIQUARIAN to embrace all the material which has heretofore appeared in the other Journal. This gives to the ANTIQUARIAN much more variety and a greater range of topics, and adds to the list of contributors a large number of very able and learned men, and at the same time concentrates into one magazine the whole subject of Oriental, Biblical, Classical, European and American Archaeology.

The contributions on American subjects will take the precedence in the order of arrangement, those on Oriental and Biblical Archaeology being in a department by themselves, but the aim will be to make the magazine as broad and comprehensive as possible. Especial attention will be given to the review of articles in foreign magazines, and to the record of all late discoveries and explorations.

We have no doubt that in the new form the ANTIQUARIAN will interest a much larger class of readers, and we expect for it a wider circulation, and a great increase in the number and variety of contributions.

For Biblical and Classical Scholars the magazine will be especially valuable. It is well known that the discoveries in the East have opened a new world, and that the light thus thrown upon Ancient History and on Bible and Classic Studies have given a wonderful advance to learning, though the facts have heretofore been so scattered that only a few students have reaped the results from these discoveries. Our hope is that we shall be able to so collect information from the various sources, that our readers shall have the benefit of the latest investigations in all parts of the world, and that American scholars may come to recognize this magazine as their medium of communication. The plan is a broad one, and is worth sustaining, and we hope that College Professors and Students, Clergymen and Bible Scholars, and all who are interested in Oriental, Biblical or Classical Studies, will help support the Magazine.

TESTIMONIALS TO THE ORIENTAL DEPARTMENT.

THE ANTIQUARIAN has engaged a large corps of special contributors, including some weighty names, and its pages give evidence of the editor's own ability, industry and broad outlook. As Palestinian explorations and related lines of inquiry do not rouse much non-Christian enthusiasm, it was inevitable that the department of Oriental and Biblical Archaeology should fall chiefly into the hands of clergymen like Drs. Crosby, Abbott, and Strong, Rev. T. O. Paine, the Egyptologist, and Rev. A. H. Sayce, the Oxford Assyriologist; but it will help to revive the waning faith in miracles, if there should be no sign of unscientific bias on the part of men presumably committed to certain theological conclusions. Nevertheless, this portion of the magazine is certain to be timely and valuable, and it will probably have a wide circulation of its own.—*New York Observer*.

We know of nothing that is so much calculated to aid the Biblical student in his studies. We therefore feel the liveliest interest in the success of the enterprise, and hope Mr. Peet, who is qualified to undertake this work, will be abundantly encouraged.—*Central Presbyterian, Richmond, Va.*

We take pleasure in calling attention to it. Its objects are: "First, to give the results of the latest researches in Oriental lands, especially as they may illustrate Scripture history. Second, to present the more recent views in Biblical criticism, but from a strictly evangelical standpoint. Third, to condense the various discussions on science and religion so that readers may have before them the latest phases of thought on these subjects in briefest and most comprehensive form. Arrangements have been made with the best scholars of this country and of Europe to furnish articles in their own departments, and a digest of the various reports and periodicals will be furnished by competent authors and translators."—*Christian Secretary, Hartford, Ct.*

It is published in the interest of evangelical truth, and, as we believe that true science and evangelical Christianity are in thorough harmony, we shall expect to find this periodical furnishing great assistance in the elucidation and confirmation of the truth of the Bible. The articles in the present number are short, but they deal with interesting subjects, and there is about them the atmosphere of health and vigor.—*Church Advocate, Harrisburg, Pa.*



THE JEWS' WAILING PLACE.

THE AMERICAN ANTIQUARIAN.

VOL. III.

APRIL, 1881.

No. III.

AN INQUIRY INTO THE IDENTITY AND HISTORY OF THE SHAWNEE INDIANS.

BY C. O. ROYCE.

Read before the Anthropological Society of Washington, D. C.


This paper is offered with the full understanding that it purports to be nothing but a brief outline of some yet unfinished investigations into the past history of the Shawnee tribe.

It should be considered as merely tentative and subject to such corrections—either of a minor or radical character—as the results of more elaborate inquiries may seem to justify.

The Shawnees were the “Bedouins,” and, I may almost say, the “Ishmaelites” of the North American tribes. As wanderers, they were without rivals among their race; and as fomenters of discord and war between themselves and their neighbors, their genius was marked.

Their original home is not, with any great measure of certainty, known. It is altogether improbable that it ever will be. Many theories on the subject have been already advanced, each with a greater or less degree of plausibility. More, doubtless, will from time to time be offered; but, after all, the general public will be restricted to a choice of probabilities, and each must accept for himself that which, to his mind, shall seem most satisfactory and convincing.

First. In the year 1608 Captain John Smith, of the Jamestown colony, in Virginia, proceeded upon an exploring expedition up the Chesapeake Bay. In the course of this expedition he encountered and held communication with numerous nations or tribes of Indians, then occupying the shores of the bay and its immediate vicinity. All these Indians lived in continued dread of a tribe known to them by the name of “Massawomekes.” In the language of Smith: “Beyond the mountains, from whence is the head of the river Patawomeke (Potomac) the



Salvages report, inhabit their most mortal enemies, the Massawomekes, upon a great salt water, which, by all likelihood, is either some part of Canada, some great lake or some inlet of some sea that falleth into the South Sea. These Massawomekes are a great nation, and very populous."

Smith further relates that the other tribes, especially the Patawomekes, the Patuxents, the Sasquesahannocks and the Tockwoughes were continually tormented by them; complained bitterly of their cruelty, and were very importunate with him that he should free them from their assaults. This Smith determined to do, and had not his project been vetoed by the Colonial Council, the history and identity of this people would not now, in all likelihood, be enshrouded in such a mantle of doubt.

He did, in fact, encounter seven canoes full of them at the head of Chesapeake Bay, with whom he had a conference by signs, and remarks that their implements of war and other utensils showed them to be greatly superior to the Virginia Indians, as also their dexterity in their small boats, made of the barks of trees, sewed with bark, and well "luted" with gum, gave evidence that they lived upon some great water.

When they departed for their homes, the Massawomekes went by the way of what Smith denominates Willoughby's River, and which his map and description show to be the modern "Bush River," which is on the west side of the bay, and trends in a northwestern direction.

The map, accompanying the London edition of 1629, of Smith's travels, locates the Massawomekes on the south shore of a supposed large body of water in a northwestern direction, and distant from the head waters of the Patawomeke (Potomac) river some twenty-five leagues. This, making reasonable allowance for the discrepancies in topography, places them without doubt along the south shore of Lake Erie, with an eastern limit not remote from the present city of Erie, Penn., and extending east thence westward.

I am aware that at least two eminent authorities (Gallatin and Bancroft), whom it would almost seem the height of presumption for me to dispute, have assumed that the Massawomekes and the Five Nations were identical. The more closely I have examined the evidence the more thoroughly am I convinced of their error in this assumption.

At that date the most westerly of the Five Nations—the Seneca—was not in possession of the country west of the Genessee River. Extending from that neighborhood westward to and beyond Niagara River, and along the southeast shore of Lake Erie, the country was occupied by a numerous nation, known to history as the "Attiwandaronk or Neutral Nation,"

whose power was broken and the tribe destroyed or dispersed by the Five Nations, but not until about 1651, more than forty years subsequent to Smith's observations. To reach the country of the Five Nations from Chesapeake Bay, an almost due north course, or that of the Susquehannah River, would have been the natural and most convenient route to pursue. A route leading beyond the mountains, in which the Potomac River had its sources, would have been neither a natural nor convenient one for reaching the shores of Lake Ontario and vicinity, then the country of the Five Nations.

It is highly improbable that war parties of this great Iroquois confederacy should have followed such a route in the face of the fact that the only tribes living along the line of the more direct route held them in great fear, and would have gladly allowed them to pass without molestation.

I assume, then, that the villages of the Massawomekes occupied the south and southwest shores of Lake Erie, and that they controlled the intermediate country to the Allegheny Mountains as a hunting range, frequently extending their war and predatory excursions to the territory of tribes east of the mountains and along the upper portion of the Chesapeake Bay.

Second. From the accounts of early French travelers, and the relations of the Jesuit missionaries, we are advised of the existence, during the first half of the seventeenth century, of a nation of Indians, who were called by the Hurons the "Eries," by the Five Nations "Rique," and by the French, the "Chat," or Cat Nation.

According to Sagard's History of Canada, published in 1636, the name of Chat or Cat, as applied to this people, is thus accounted for: "There is in this vast region a country which we call the Cat Nation, by reason of their cats, a sort of small wolf or leopard found there, from the skins of which the natives make robes, bordered and ornamented with tails."

This nation occupied a tract of country on the south shore of Lake Erie, identical with that to which I have assigned the Massawomekes of Smith.

They were visited as early as 1626, according to the Jesuit relations, by two missionaries, Sagard and d'Allyon, who made an unsuccessful attempt to establish a mission among them; nor did the Jesuits, with the constant zeal and persistence so characteristic of them, ever succeed in obtaining a foothold with the tribe.

At this time, and for some years thereafter, they are spoken of as very numerous and powerful. A war having broken out between them and the Five Nations, the Eries were utterly over-

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mind, notwithstanding the average tendency to exaggeration and
boastfulness, may, however, be esteemed as not wholly unworthy
of confidence in the general facts related, regardless of their
highly colored details. These traditions all concur in the asser-
tion that the Five Nations, a short time previous to the period
of French settlement in Canada, lived near the present site of
Montreal; that, as a result of a war with the Adirondacks, they
were forced to leave their own country and fly to the banks of
the lakes on which they subsequently lived, where the war was
at intervals renewed, and was still in progress at the time of the
French occupation of Canada. Here they applied themselves
to increasing their proficiency in the use of arms, and in order
to raise the spirits of their people, the Sachems, "turned them
against the Satanas, a less warlike nation, who then lived on the
banks of the lakes, and who, in the course of a few years, were
subdued and driven out of their country."

Colden, doubtless, borrows this relation from the account of
Bacqueville de la Potherie, who was in Canada for several years
anterior to 1700, and whose history of America was published
about 1720. Charlevoix also has a similar relation. Both the
authors, doubtless, borrowed from the narrative of Nicholas
Perrot, who lived among the Indians for more than thirty years

subsequent to 1665, and who enjoyed their confidence in an unusual degree. He relates that the Iroquois had their original home about Montreal and Three Rivers; that they fled from the Algonquins to Lake Erie, where lived the Chaouanons, who waged war against them and drove them to the shore of Lake Ontario. That after many years of war against the Chaouanons and their allies, they withdrew to Carolina, where they now are. That the Iroquois (Five Nations), after being obliged to quit Lake Erie, withdrew to Lake Ontario, and that after having chased the Chaouanons and their allies towards Carolina, they have ever since remained there in that vicinity.

John Bartram, also, in his "Travels and Observations in America," published in London in 1751, after locating the Shawnees in what is now Kentucky, remarks that "it was against this people, the Six Nations first turned their arms with success after they had fled before the warlike Adirondacks."

Here, then, we have in the earliest history of the country, the names of three tribes or nations, who, by the accounts of different and widely separated travelers, occupied the same region of territory, viz.:

First. The Massawomekes of Smith, who lived upon some great lake beyond the mountains in which the Potomac River has its sources, and which Smith's map shows to be in the location of Lake Erie.

Second. The Eries or Chats of the Jesuit relations, who occupied almost the entire south shore of Lake Erie; and,

Third. The Satanas of Colden (who, in the vocabulary preceding his work, gives the name as the equivalent of Shaonons) and the Chaouanons of Perot, who lived on Lake Erie, and from the text of the narrative, evidently on the south shore to the west of the Five Nations.

By all the accounts given of these people, they were, comparatively speaking, very numerous and powerful. Each occupied and controlled a large region of territory in the same general locality; each had, so far as history and tradition can throw any light upon the subject, long been the occupant thereof. The fact that neither of these authorities speaks of more than one nation occupying this region of country, and neither seems to have had any knowledge or tradition of any other nation having done so, coupled with the improbability that three numerous and warlike nations should, within the historic period, have occupied so limited a region as the south shore of Lake Erie—and one which by water communication would have been so easily accessible for each to the other—without any account or tradition having survived of their intercourse, conflicts and destruction of one another, is, to my mind, little less than con-

thrown and dispersed, about the year 1655. From this date we find no mention of their existence as a nation.

Schoolcraft, in his bulky and ill-assorted work on "The History, Condition and Prospects of the Indian Tribes," adopts the theory that the Eries and Neuters were one and the same people. That he is certainly mistaken, I hardly think there is room for reasonable doubt. The evidence of his error is abundant in the Jesuit relations, but I have only the space to cite the testimony of Father Brebouef, who visited the Neutral Nation in 1640, and remarked that only four towns of the latter nation lay east of the Niagara River, ranging from east to west, toward the Erielhonons or Chats. Also, in speaking of Niagara River, he says: "It falls first into Lake Erie, or of the Cat tribe, and then it enters the Neutral ground."

"Bressani," who spent some years in the country, also, in his "Breve Relations," places the Neuters north of Lake Erie, and the Eries to the south.

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vincing evidence of the fact that three such distinct nations never had a contemporaneous existence, and that the Massawomekes, Eries and Satanas or Chaouanons, were one and the same people.

I am aware that the Chaouanons or Shawnees, as they are now denominated, speak the Algonquin tongue, and that the Eries have ever been linguistically classed as of Iroquois stock; but of the latter fact there seems to be no more convincing proof than a passage in the Jesuit Relations of 1648, asserting that "the Cat Nation have a number of permanent towns, * * * and they have the same language with our Hurons."

The Jesuits never succeeded in establishing a mission among the Eries. Their intercourse with them was almost nothing, and they have left us no vocabularies by which their linguistic stock can be determined. I regard, therefore, the single volunteer remark as to their having the same language with the Hurons as having less weight in the scale of probabilities than the accumulated evidence of their identity with the Massawomekes and Chaouanons.

It is, at any rate, scarcely entitled to more weight than the assertion of Captain Smith, that the Massawomekes and Sasqueshannocks could not understand each other, except by the aid of interpreters, the latter being of Iroquois stock and occupying territory adjoining that of the former.

This identity having been assumed, and the Eries having, by all accounts, been conquered and dispersed about 1655, it remains to trace the remnant in their wanderings across the face of the country. This is, perhaps, the most difficult and unsatisfactory task that enters into the consideration of the subject. I could not, even were it desirable, in the space allotted to such an article, give more than a few of the most general facts. To do otherwise would occupy much more time and space than my present object would justify or require.

At this point, I may remark that there is a manuscript map still in existence in Holland which accompanied a report made to the States-General, in 1614 or 1616, of the discoveries in New Netherlands, upon which a nation of Indians called Sawwoanen is marked as living on the east bank of the Delaware river.

De Laet, also, in the Leyden edition of his history, published in 1640, enumerates the Sawanoos as one of the tribes then inhabiting the Delaware river. And on a map of New Netherlands, by A. Vander Donck, bearing date of 1656, the Sawanoos are assigned position on the west bank of the "Zuydt" (now Delaware) river, at a point between the present site of

Philadelphia, on the south, and Trenton, on the north, and extending indefinitely westward.

It is, of course, impossible, at this late day, in the absence of further data, to determine whether this tribe, which seems to have been known on the Delaware for more than forty years, bears any relationship to the modern Shawnees. It is not impossible that in the course of the conflicts between the Satanas and the Five Nations, a body of the former may have become segregated from their friends and have terminated their wanderings by a settlement on the Delaware. The probabilities seem to be not unfavorable to this hypothesis.

The solution, however, may possibly be found in the fact that the word "Sawanos" is said to have signified Southern. The Delaware river was at that date known as "South" river, and Sawanos or Southern may have been a sort of general term applied to Indians residing on that river.

The Eries, after their overthrow, do not again appear in the contemporary relations or maps under that name, except as a destroyed nation. Their former location is shown on De L'Isle's maps of 1700 and 1703, Senex's map of 1710, and numerous others. The survivors being driven from their ancient homes; their villages and property destroyed, and deprived of the lake as a principal source of food supply, were forced to resort to the chase more exclusively as a means of subsistence. These things would have a tendency to divide the tribe into small hunting parties and to encourage the wandering propensities so often remarked of the Shawnees.

In 1669 we find La Salle, who was at that time among the Iroquois, at the head of Lake Ontario, projecting a voyage of discovery down the Ohio, acknowledging the welcome present from the Iroquois of a Shawanoe prisoner, who told him that the Ohio could be reached in six weeks, and that he would guide him to it. This would indicate that the Shawnees, or a portion of them, were at that date familiar with the Ohio country, and probably residents of it.

Marquette, who was at La Pointe, on Lake Superior, in 1670, writes that the Illinois have given him information of a nation called Chaouanons, living thirty days' journey to the southeast of their country.

In the Jesuit Relations of 1671-72, the name "Chaouanong" appears as another name for "Ontonagannha," which is said, in the Relations of 1661-62, to mean "where they do not know how to speak," but their location is not given. De L'Isle's map of 1700, however, places the Ontonagannha on the head-waters of the Santee and Great Pedee rivers, in South Carolina, and

the same location is marked on Senex's map of ten years later as occupied by villages of Chaouenons.

In 1672, Father Marquette, in passing down the Mississippi river, remarks, upon reaching the mouth of the Ohio, that "This river comes from the country on the east inhabited by the people called Chaouanons, in such numbers that they reckon as many as twenty-three villages in one district and fifteen in another, lying quite near each other * * * and are the people the Iroquois go far to seek in order to wage an unprovoked war upon them."

In 1680, as related by Father Membre in his account of the adventures of La Salle's party at Fort Crevecoeur, the Illinois, who were allies of the Chaouanons, were warned by one of the latter tribe, who was returning home from a trip to the Illinois country, but turned back to advise them of the discovery of an Iroquois army which had already entered their territory.

During this same year a Chaouanon chief, who had one hundred and fifty warriors, and lived on a great river emptying into the Ohio, sent to La Salle to form an alliance.

On the map accompanying Marquette's Journal, published in 1681, the Chaouanons are placed on the Ohio river, near the Mississippi, while on his original manuscript map—a fac-simile of which will be found in French's Historical Collections of Louisiana—they are located in a blank, unexplored region, a long distance to the east of the Mississippi, probably meant to be in the neighborhood of the middle or upper Ohio river, though that river is not laid down upon the map, and its course was not definitely known to Marquette.

In 1682, M. de La Salle, after exploring the Mississippi river to the Gulf, formally took possession of the country from the mouth of the river to the Ohio, on the eastern side, with the consent of the Chouanons, Chichachas and other people dwelling therein.

At page 502 of the third volume of Margry, it is recorded that "Joutel, the companion of La Salle in his last voyage, says, in speaking of the Shawanoes, in Illinois: 'They have been here only since they were drawn thither by M. de La Salle; formerly they lived on the borders of Virginia and the English colonies.'"

Father Gravier led an expedition down the Mississippi to its mouth in the year 1700. He speaks of the Ohio river as having three branches—one coming from the northeast, called the St. Joseph or Ouabachie; the second from the country of the Iroquois, called the Ohio; the third, on which the Chaouanoux lives comes from the south-southwest. This latter was evidently the Tennessee or Cumberland.

On De L'Isle's map of 1700, previously alluded to, the Ontouagannha are placed on the head-waters of the great rivers of South Carolina, and the Chionons on the Tennessee river, near its mouth. It appears, however, from the report of an investigating committee of the Pennsylvania Assembly, made in 1755, that at least a portion of this band of the Shawnees or Ontouagannha living in South Carolina, who had been made uneasy by their neighbors, came with about sixty families up to Conestoga about the year 1698, by leave of the Susquehannah Indians, who then lived there.

A few of the band had, about four years previously, at the solicitation of the Minsis, been allowed to settle on the Delaware river, among the latter. Other straggling parties continued, from time to time, for a number of years, to join their brethren in Pennsylvania, until they finally became among the most numerous and powerful tribes in the State.

In 1700, William Penn visited the chiefs of the band at Conestoga, and in the same year the Council of Maryland resolved, "that the friendship of the Susquehannock and Shawanese Indians be secured by making a treaty with them, they seeming to be of considerable moment and not to be slighted."

The map of North America, by John Senex, in 1710, indicates villages of Chaouanons on the head-waters of South Carolina, but apparently places the main body along the upper waters of the Tennessee river, a short distance west of the Appalachian mountains.

This would make them very close neighbors of the Cherokees, and probably places them somewhat too high up the river. Ten years later (1720) a map of the north parts of America, by H. Moll, does not indicate the presence of any Chaouanons on the Tennessee river, but shows their former territory to be occupied by the Charakeys. This corresponds with the statement in Ramsey's *Annals of Tennessee* (page 45) that M. Charleville, a French trader from near New Orleans, came among the Shawnees, then (1714) inhabiting the country upon the Cumberland river, and traded with them, and that about this period the Cherokees and Chickasaws expelled them from their numerous villages upon the lower Cumberland.

On this map of Moll's is found, at the mouth of the Cumberland (there denominated the Sault) river, the designation of "Savannah Old Settlement," indicating the probable abandonment, at least several years previously, of the last Shawnee village in the Cumberland and Tennessee valleys, in their gradual withdrawal to the north side of the Ohio river. As late as 1764, however, according to Ramsey, a straggling band of them moved from Green river, in Kentucky, where they had

been residing (though, as I surmise, only temporarily), to the Wabash country.

It seems, also, that at some period anterior to 1714, a band of Chaouanons, wanderers in all likelihood from the Cumberland and Tennessee country, had lived for a time within two leagues from the fort at Mobile, Ala., for in that year M. de Bienville, the commandant, assigned the place which had been abandoned by them to the use of some fugitive Taensas.

Another band, probably an offshoot from those who had wandered to South Carolina, found a home at a place now known as Oldtown, Allegheny county, Md., a few miles below Cumberland, on the Potomac river; and, in 1738, we find, by reference to Vol. 1, page 63 of the Virginia State Papers, that "the king of the Shawanese, living at Allegheny, sends friendly messages to Gov. Gooch, * * * desires peace," etc. This was likely the same band who, in 1701, concluded a treaty with William Penn, at Philadelphia, and is referred to in the preamble to the treaty as inhabiting in and about the northern parts of the river Potomac. The nucleus for the Shawnee village which long occupied the neighborhood of Winchester, Va., is likely traceable to this band.

But I have already exceeded the intended limits of this article and am yet more than a century behind in my narrative. I can but give the merest outline of subsequent Shawnee history. I shall be unable to consider and discuss the probabilities of their identity with the Savannah Indians, and their former residence on the Savannah river, in Georgia; the story of their chief Black Hoof, relative to their home on the Suwanee river, in Florida; their asserted consanguinity with the Sacs and Foxes, or any other of the numerous suggestions and theories concerning their origin and primal abode.

Between the date of the ejection of the western portion of the Shawnees from the valleys of the Cumberland and Tennessee rivers, and the middle of the eighteenth century, their appearance in history is rare. They were, doubtless, scattered in several bands along the Ohio river and in the interior of what is now the States of Ohio and Indiana. The oldest map on which I have noticed the location of the Shawnees within the limits of Ohio, is that of Emanuel Bowen, published in London in 1752, which places a "village d'Chouanon" on the north side of the Ohio river, about midway between the mouths of the Kanawha and Scioto.

That branch of the tribe living in Pennsylvania had, in the meantime, become decidedly the most numerous and important portion of the Shawnee people. Their history is a part of that of the State in which they lived, and need not be here recited.

It is sufficient to state the fact that, owing to the aggressiveness and encroachments of the increasing white population, they were gradually crowded from their lands and homes until about the year 1750, when they began their migrations to the west of the Ohio river, and within a few years had united with their western brethren and were quite numerous in the Muskingum and Scioto Valleys. They sided actively with the French in the war of 1755; aided, materially, in the defeat of Braddock, and were a terror to the border settlements of Pennsylvania and Virginia.

In 1756, an expedition, under Major Lewis, against their upper town on the Ohio river, three miles above the mouth of the Kanawha, was a failure. In 1764, Colonel Boquet's expedition to the Muskingum resulted in securing temporary peace with them. In 1774, Colonel McDonald destroyed their town of Wappatomica, a few miles above Zanesville. In the same year they received a severe blow in the defeat at Point Pleasant, Va. In 1779, Colonel Bowman's expedition destroyed the Shawnee village of Chillicothe, on the Little Miami river, three miles north of Xenia, Ohio.

In 1780, Gen. Geo. Rogers Clark burnt the Piqua towns on Mad river.

In 1782, General Clark repeated his expedition and destroyed the Upper and Lower Piqua towns on the Great Miami within the presents limits of Miami county.


In 1786, Colonel Logan destroyed the Mack-a-cheek towns in Logan county.

In 1790, the Shawnees suffered from the expedition of General Hannar, but had a share with the Miamis in his final defeat.

In 1791, they glutted their vengeance at the cruel defeat of St. Clair, and in 1794, were among those who were made to feel the power of the Federal troops at "Fallen Timbers," on the Maumee river, under General Wayne, which brought the peace of 1795.

In the meantime the Shawnees had been parties to a treaty of peace with the U. S., in 1786, at the mouth of the Great Miami river, but it failed of its object.

As the result of Wayne's victory, came the treaty of Greenville in 1795, participated in by the Shawnees and eleven other tribes, whereby all the territory south and east of a line beginning at the mouth of the Cuyahoga river; thence up the same to the portage leading to the Tuscarawas river; down the Tuscarawas to the crossing above Fort Laurens; thence westerly to Loramie's store on the Great Miami; thence to Fort Recovery (the place of St. Clair's defeat), and thence southwesterly to the



Ohio river, opposite the mouth of the Kentucky river, was ceded to the U. S. This tract comprised about two-thirds of the area of Ohio and a portion of southeastern Indiana.

July 4th, 1805, the Shawnees were again parties to a treaty wherein was ceded to the U. S. a large tract of country lying north and west of the Greenville treaty line, and east of a north and south line 120 miles west of the Pennsylvania boundary.

By treaty of Nov. 25th, 1808, in conjunction with other tribes, they ceded the right of way for two roads; one running from Fort Meigs on the Maumee river to the Western Reserve, and the other from Fremont, south to the Greenville treaty line.

Prior to the war of 1812, the Shawnees had again become hostile to the U. S. The forces of the great Tecumseh and his scheming brother, the Prophet, under the leadership of the latter, were defeated by Harrison at Tippecanoe, Indiana, in 1811, and the Indian alliance was finally broken and dissolved, by the death, in 1813, of Tecumseh at the battle of the Thames.

By the treaty of 1817, the Wyandots, Pottawatomies and other tribes made a cession to the U. S. (in which the Shawnees concurred) of almost the entire remaining Indian territory within the present limits of Ohio. Within this cession, the United States, in turn, granted them sundry small reservations upon which to live. Among these reservations, there were for the Shawnees a tract ten miles square, with Wapakoneta as the centre; a tract adjoining the above of twenty-five square miles on Hog Creek, as well as a tract of forty-eight square miles surrounding Lewistown, for the mixed Senecas and Shawnees.

The treaty of 1818 added twenty square miles to the reserve at Wapakoneta and fourteen square miles to the one at Lewistown.

By treaty of July 20th, 1831, the Lewistown reserve was ceded to the U. S., and those at Wapakoneta and Hog Creek were ceded on the 8th of the succeeding month, by which transactions the last vestige of Shawnee right or claim to lands in Ohio became extinguished and they agreed to remove west of the Mississippi river.

With this end in view a tract of 60,000 acres of land was granted to the Lewistown band of mixed Senecas and Shawnees, which was subsequently selected in the northeast corner of Indian Territory, to which they removed, and where, with some subsequent modifications of boundaries, they now reside.

It is necessary here to state that a band of Shawnees some years prior to 1793, becoming dissatisfied with the encroachments of the white settlers, removed west of the Mississippi river, and in that year were, in connection with certain Delawares who accompanied them, granted a tract of land by Baron

de Carondelet, the French Governor. The Delawares having, in 1815, abandoned this region, the Shawnees, in 1825, ceded the land to the U. S. and accepted in lieu thereof for the accommodation of themselves and such of their brethren as should remove from Ohio, a tract in the eastern part of the present State of Kansas, 100 by 25 miles in extent, and removed thereto.

To this reservation the Wapakoneta and Hog Creek bands of Shawnees, after the treaty of 1831, also removed, and the principal part of the tribe became again united.

By the treaty of 1854, the Kansas Shawnees ceded to the U. S. all of their reservation but 200,000 acres, within which, allotments of land were made to the individuals of the tribe, who from time to time, with the consent of the Secretary of the Interior, sold the same, and under the provisions of an agreement entered into in 1869 with the Cherokees, they removed to the country of the latter and merged their tribal existence with them. A number of the Kansas Shawnees who, just prior to and during the late rebellion, wandered off to Texas and Mexico, returned after the war and were provided with a home in the Indian Territory alongside of the Pottawatomies, and are known as "Absentee Shawnees." These, together with those confederated with the Senecas in the northeastern part of Indian Territory, are all of the once numerous and powerful "Massawomekes" now left to maintain the tribal name of Shawnee.

ANCIENT STONE MOUNDS—WERE THEY OBJURGATORY BURIAL HEAPS.


BY O. H. BRINKLEY.

The occurrence of ancient stone tumuli in various and widely separated parts of the earth, in connection with the unequivocal character of their contents, proves conclusively that prehistoric man occasionally resorted to a form of burial common to historic races, namely, under stone heaps. The most carefully conducted investigations have hitherto failed to develop the circumstances by which this singular practice was originally suggested. It is the object of this paper to give an explanation of this custom, and to refer to the motives with which these heaps were erected.

A few examples from history will first be given.

The first of these examples is Achan, who was "stoned," together with his entire family, then burned, "and a great heap of stones was raised over him."

The second example is the King of Ai, whom they hanged, and afterwards "cast his carcass at the entering of the gate of the city," and raised thereon a great heap of stones."



The third example is the case of the allied kings. These men, after having been hanged, were cast into the cave whence they had been taken, "and great stones were laid in the cave's mouth."

The fourth and last example refers to Absalom, who was "cast into a great pit" and a very great heap of stones laid upon him."

In the above examples we recognize two governing motives, namely, detestation and scorn. And may we not infer that back of them lay concealed a more profound and far-reaching sentiment and custom?

The early Jews were accustomed to commemorate an important event by erecting a pillar or raising a heap of stones.

Thus Jacob, after the adjustment of an unpleasant controversy between Laban and himself, raised a pillar and directed his brethren to gather stones, of which "they made a heap." In this pacific employ Laban and his brethren participated. What was the object in heaping up this pile of loose stones? Was it intended to support the pillar in an upright position? or was it not the rather designed to enhance the interest and solemnity of the ceremony by a general participation in it? This monument stood as a witness that neither party was permitted to pass it to do the other harm.

After the hosts of Israel had safely passed over Jordan, a monument formed of twelve stones was erected. Moreover, the stones were taken from the bed of the river, with the view, probably, of intensifying the impressiveness of the ceremony.

In the general absence of a knowledge of letters many important events were thus transmitted, and ultimately lost their significance only by the loss of national existence.

In view, therefore, of the above facts, I infer that the stone heaps referred to were not only suggestive of detestation and scorn, but they served as constant reminders of the consequences of disobedience and the terrible results of retribution. The peculiar wording, as applied to these stone piles,* leads to the further inference that they did not attain their full proportion at once, but by gradual accumulation.

* Expunge from the text the supplied words and the sentence will read thus: "And they raised over him a great heap of stones unto this day," as in the case of Achan.

The sentence might be so amended as to read thus: "*Which has increased* unto this day."

This construction is not only feasible, but it is in harmony with the practice from which the most ancient structures of this character are presumed to have originated.

M. Leguay, as quoted by Figulier, expresses the opinion that the various objects occasionally met with in the body of the mound, and separate from the human remains, were cast in as votive offerings during the heaping up process. "And this custom," says M. Leguay, "which was observed during many long ages, though sometimes, and perhaps often, practiced with declining energy, inherent in every religious custom, was the origin of a practice adopted by many of the nations of antiquity, that, namely, of casting a stone upon the tomb of the dead. "Thus were formed those sepulchral heaps of stones called gal-gals, some of which still exist."—*Primitive Man*.

The practice of casting a stone on the grave of the departed, which is still in use in some parts of the world, is well adapted to increase the efficiency of these silent but impressive chronicles, and is expressive of scorn, detestation or affection. Thus, in Ireland, it is regarded as "in order" to hurl a stone at the grave of a malefactor, while in France the Jews, in some instances, record their visits to the graves of their loved ones by depositing a pebble on the tomb.

In Mexico, a cross is erected on the spot where some hapless traveler has fallen by the hand of the assassin, a few stones are placed upon the grave as a nucleus. Subsequently, every one of the faithful who passes the spot casts a stone upon it, accompanied by a pious ejaculation for the repose of the defunct's soul. Thus the pile steadily increases. Query: Did the Spaniards introduce the practice or did they borrow it from their more civilized predecessors?

A few miles north of Safe Harbor, and about the same distance east of the Susquehanna, there was, and probably still is, a group of stone mounds (the number I cannot now recall), one of which was opened by the writer many years ago. The size of the pile may be inferred from the fact that, although I wrought diligently, several hours were required to reach the stone box in which the remains were deposited. The form was "cist burial" (from the German *kuesten*—a chest). The sides, end and top were formed of flat stones. The box was placed nearly east and west. At the east end I noticed a stone, nearly the width of the tomb, which had been placed there probably as a support for the head. Nearly centrally located was a stake, which, apparently, had been driven through the body of the deceased. This stake was in an excellent state of preservation, but was badly bruised on the top by repeated blows. The end that was driven into the ground had been sharpened by a blunted instrument, probably a stone axe.

Its presence may have been due to a practice which was observed by certain tribes, that, namely, of driving a stake through the body, to prevent the enemy from removing it. A singular feature in this interment was the total absence of human remains or any evidence of man's handiwork, and contrasts very strikingly with the sound condition of the stake.

I found, mingled with the stones, a considerable quantity of decayed vegetable matter, but no soil or clay had been used as a component of the mound. The scrupulous care exhibited in the construction of the mound to guard its inmate from the effects of the superincumbent mass, may be accepted as evidence of tender regard. The absence of human remains would seem to justify us in assigning to this monument a very considerable

antiquity, and the blunt and ragged condition of the point of the stake, implying, as it does, the absence of iron implements, may be recognized as additional corroborative testimony. To whom should these barrows be referred?

A remnant of a tribe (Piquods probably) dwelt in that neighborhood at a comparatively recent period and were exterminated, according to tradition, about the middle of the last century, or, possibly, at a later period. The following is the substance of the tradition referred to:

A short distance east of the mounds there is a tract of land, "beautiful for situation" and remarkably productive. This district is still locally known as "the Indian town land," and is divided into a number of the finest farms in that part of the State.

Here formerly dwelt a remnant of a once numerous tribe—the Piquods. These people made occasional journeys up the river to visit their friends, and they "must needs" pass through a frontier settlement on Paxton creek, whose inhabitants claimed to have been robbed of some of their stock, and charged the Piquods with the theft. This accusation was indignantly denied by their white neighbors, but it served as a pretext for the valiant "Paxton boys" and gave them an opportunity to exhibit their prowess upon a feeble and defenseless people. Accordingly about two hundred of them, armed and equipped, marched down, brimfull of courage and terrible resolves.

The Piquods, warned of their approach, hastily fled to Lancaster for safety, where they found a fancied asylum in the jail. Vain hope! Their merciless enemies, who closely pursued them and whose courage gained strength by the flight of the fugitives, soon were thundering at the door, which speedily yielded to repeated blows. A scene of carnage ensued, characterized by brutal atrocity, over which, for the sake of humanity, we will drop the curtain. It is sufficient to say they murdered them all, sparing neither age nor sex.

But the labor involved in the heaping up of these great piles, even on the hypothesis of gradual accumulation, is strongly suggestive of greater numerical force than the above traditional remnant could have mustered. It is, therefore, probable that the stone piles we are now considering were accumulated by a more ancient and more numerous people, as an outward expression of detestation, and prove to be what the writer calls objurgatory mounds.

One of the few mounds of this class in the Miami valley was recently investigated by the writer, assisted by Mr. Isaac Leshner. This mound is situated about four miles southwest of Dayton, near the northeast corner of an ancient rectangular inclosure.

The position is elevated and commands an extensive and enchanting prospect.

The form of interment was unique, and may be partially understood by the following description. It may, however, be proper to state in the outset that an excavation had been made into this mound many years ago, in search of treasure, which was carried about three feet below the original surface.

After clearing out and enlarging this old excavation, we were presented with a clear view of the interior arrangement, the stratified character of which was sharply defined. The following are its characteristic features:

A layer of black earth, averaging one foot in depth and from twelve to fifteen feet in diameter, rested, in part, upon flat lime-stones and partly upon the original surface. In this stratum we found the remains in isolated deposits. This black stratum was covered by a layer of flat stones, boulders, pebbles and clay ten inches thick, which completed the structure. The most remarkable feature in this interment was the broken and disordered condition of the bones. All the long bones and ribs had been broken evidently before their interment, as the fractures are old and not the result of decay. The skulls appear to have been subject to equally rough treatment, as we found the different parts mingled together in hopeless confusion. Hence this feature cannot be explained by referring it to squat burial. Moreover, their situation fully exonerates former diggers from any participation in it, as the remains were found over three feet from the old excavation, in the undisturbed stratum, *and the cover intact*. The isolated condition of these deposits would not seem to justify us in classing it with the ossuaries, while the state of confusion in which they are found is suggestive of re-interment.

The apparently barbarous treatment of these remains, together with the total absence of any visible effort to protect them from the weight of the superincumbent mass, may be claimed as evidence of detestation, scorn or contempt.

The labor involved in transporting this pile of stones up a steep declivity, from the base of the hill, a distance of several hundred yards, is not trivial, as some of them must have required the joint efforts of two men. Moreover, it is not probable that this toil was incurred simply to subserve the purposes of burial, as a more efficient material was at hand. These circumstances tend to establish the *significant* character of the mound.

In the above example we recognize features somewhat analogous to clay mound developments. But the comparatively sound condition of the remains, their occurrence in black mold, together with the palpable negligence exhibited in the inadequacy of the protection, all point to its Indian origin. The absence of

ashes in this case may be safely claimed as additional proof, as a layer of ashes uniformly occurs in Mound Builders' sepulture. It is conceded, also, that the exertions required in this case are incompatible with the Indians' acknowledged hostility to labor, and can only be reconciled on the hypothesis of gradual accumulation.

The clay that was used in filling the intervening spaces was taken from the base of the mound, which gives it a deceptive height. Hence, while its apparent height is at least four feet, it is actually not quite two. The entire surface of the mound, about thirty feet in diameter, and extending southward over an area of many square yards, is thickly strewn with flat stones and boulders. This might be explained in part by assuming that the soil has been washed out, leaving the stones exposed; but in view of all the circumstances, I feel disposed to refer it to an obscure observance. As the ground over which the stones are spread was never disturbed by the plow, their scattered condition may not be attributed to that as an agent. The only explanation that presents itself is based upon the practice referred to, that of hurling a stone at the grave of a malefactor, in the observance of which many stones fell short of the mark. As there is no black soil in the vicinity of the mound, its presence in such abundance as a matrix for the remains is not easily explained, and the question as to why it was selected for this purpose is equally perplexing.

INDUCTIVE METROLOGY.*

BY W. J. M'GEE.

After directing attention to the well known fact that "the materials for a history of measures have been principally, if not wholly, derived from the statements of ancient authors," Mr. Petrie goes on, in the essay bearing the above caption, to "point out the means by which the independent and complete evidence of ancient monuments may be obtained, apart from any other sources of information." Now, since the purely ethnologic interest attaching to units of measure is so considerable and so widely disseminated, the desirability of more trustworthy information as to the precise value of ancient standards of measurement than the generally vague and unsatisfactory statements of early authors is obvious. Furthermore, the prehistoric units of measure are forever lost, unless they can be determined inductively

* "Inductive Metrology; or the Recovery of Ancient Measures from the Monuments. By W. M. Flinders Petrie. London: Edward Stanford, 55 Charing Cross, 1877." 8 vo., pp. xlii. and 153, with folding tables.

from the anciently measured monuments yet remaining in existence. The value of any reliable means of recovering lost standards of measurement is not, therefore, likely to be overestimated.

The greater portion of the volume is devoted to a synopsis of the results of measurements already made. The antiquities of Egypt, of Babylonia, Assyria, Persia and Syria, of Asia Minor and Greece, of Italy, Africa and Sardinia, and of mediæval Ireland and England, as well as the rude stone and earth works of France, Great Britain, North America, Polynesia and India, as measured by the author or described by original observers, have been exhaustively examined in the search for ancient units. The results are of extreme interest. Thus the sacred cubit seems to have been anciently used not only in Assyria, Persia, Syria, and Egypt, but also in Greece and *North America*, and, in modern times, in Persia and China; and the Assyrian cubit is not confined to Assyria, Egypt, and Persia, but also occurs in Italy, Ireland, and *Mexico*. The occurrence of early Oriental standards of measurement on this continent adds another to the many curious links by which a connection between our ancient civilization and that of eastern countries can be traced. The evidence on which our western units are based is yet, however, barely adequate. On the whole, the work is a unique contribution to ethnologic science, and opens a wide field for future research. Not only are the methods and results original, but the whole conception is practically new to English-speaking ethnologists.

Four related modes of determining the unit employed in any series of linear dimensions are described. "All the methods depend on the plan of ascertaining every likely ratio between pairs of the measured lengths, and then comparing these ratios to find which of them may be combined so as to give a simple number to each length, that shall represent the probable number of the original units by which that length is formed, *i. e.*, the multiples of the unit used by the original designer." 1. All likely ratios between each of a series of measured lengths and that immediately following it, may be observed, when a comparison of these ratios may indicate a simple relative value for each length, and hence the original unit and the multiples employed in each case. 2. All evidently related numbers may be grouped together, and the simplest ratios between the numbers of each group sought; after which the various groups may be compared. 3. The ratio of any measure (preferably a small one) to each of the others may be determined when, if its exponent is usually the

same, it is probable that such measure represents the number (or a simple fraction or multiple of the number) of units expressed by the exponent. 4. The successive differences between any considerable series of measured lengths may be taken, and either a common divisor of these differences, or that difference which most frequently recurs, may be taken as the unit or its multiple. In practice, either of these methods, or any modification of either, such as may seem most suitable to the case in hand, may be adopted.


If in any case numbers are found which do not seem readily reducible to the common standard, they may be either excluded or examined for fractions of the unit; or, if there are many such numbers, for a different unit. This is especially likely to be necessary where works of different degrees of antiquity are associated, as in many European and Asiatic countries. In every case, too, the numbers assumed as multiples should, if possible, be such as a builder or artisan would be likely to use, *i. e.*, even or composite, in all but the lower numbers. Whenever possible, a considerable number of observations should be employed in deducing the unit; and long lengths should be viewed with distrust, not only on account of liability to error, both in the original work and re-measurement, but also because of their inconveniently large number of possible ratios. The results of each series of measurements for the same or adjacent regions should be compared, to determine the mean value of the unit; for early measurements, as a rule, can hardly be expected to be strictly accurate. The possibility that any unit may have multiples or sub-multiples also used as units should be borne in mind in making such comparative examination. All possible sources of error should be carefully weighed. Inaccuracies of re-measurement can be practically eliminated (except in rough stone or earth works) by care and attention; but in the case of dimensions recorded by explorers, there are not only the original errors of measurement, but the frequently much greater errors of re-measurement to be considered; indeed, only the measurements of a very few archæologists are to be relied on at all where any reasonable degree of accuracy is required. Nor should the statements of ancient authors be allowed to exercise the least influence on the mind in the first search for units.

The application of the doctrine of probabilities in the determination of unknown units is considered at length, and the requisite formulæ, etc., are given. In a presentation copy a more accurate formula than those printed in the text is added by the author in the form of a note to p. 27:

$$\frac{\text{Mean of differences.}}{\sqrt{\text{(Number of observations-1)}}} \times .845 = \text{probable error.}$$

It may be suggested, however, that the condition imposed, that the multiples assumed in the search for a unit shall be "likely numbers," is unnecessary, and may be misleading, unless it is known that particular numbers were preferred by the original designers; for, since favorite numbers are so frequently pitched upon without regard either to convenience or utility, it is impossible to say, *a priori*, what would be likely to be a "likely number" among an unknown people. Too little attention seems to be given, too, to the likelihood of fortuitous approximate ratios, especially among small numbers of dimensions. While it is doubtless true that not more than one in ten of the 600 units determined by Mr. Petrie is fallacious, yet an amateur, not accustomed to mathematical work, might not be so fortunate; and apparently good grounds might be afforded for the common (though utterly baseless and illogical) assertion that "figures can be made to prove anything." The slightest error becomes important when sufficiently multiplied; and it is perfectly useless to apply infallible mathematical reasoning to fallible data and then look for trustworthy results. *Every dimension* should be compared with the product of the assumed unit by the assumed multiple, and unless all, or at least a considerable number of the presumptively measured dimensions agree within a moderate fraction of the supposed unit, the result should be viewed with distrust. Moreover, analogy with modern works would indicate that only a small proportion of all dimensions can be relied on for the accurate determination of metrical standards. But very few modern implements are made to any standard linear dimension. Even in rectangular buildings and other large works of art the dimensions of the whole or parts are often made fractional for the sake of symmetry, or for some other reason; and the fraction may be no larger than the probable error of measurement a few times multiplied. In modern buildings only the longer standards could be determined from the dimensions used in rough work. Good judgment must obviously form a preëminently essential factor in inductive metrology.

The chief purpose of the present article is to direct attention to the urgent necessity for more numerous and accurate measurements of the works of our American prehistoric races. So few measurements have been made that it is a prevalent belief, even among our leading archaeologists, that no unit of linear measure was used by the Mound Builders; an error which a few more such surveys as that of Squier and Davis ought to eradicate. Mr. Petrie made use only of the measurements of these authors, as he found no others which had been made with sufficient accuracy for metrological use. Nor are other countries much



better supplied with reliable measures of prehistoric remains. As the author of the work before us justly observes, "one active surveyor—amateur or otherwise—might do, for the genuine and accurate knowledge of the forms and peculiarities of our early remains, far more in three years (or perhaps even *months*), than all the antiquaries of Europe have done in as many centuries." It will be gratifying to archæologists everywhere to know that this gentleman has not only already made a large number of accurate plans of British earth-works, but is still actively engaged in the survey of these remains. He uses what he designates the "three-rod method" (described in "Proceedings of the Royal Archæological Institute" for June 7, 1877, p. 2), in his surveys—a method which seems excellently adapted to the class of works with which he has to deal.

In the next year after the publication of "Inductive Metrol-ogy" the present writer (who was at that time, however, ignorant of the existence of the work) published the results of a number of measurements of artificial mounds made in Iowa during the previous year, in the *American Journal of Science*.* This paper was quite recently examined by Mr. Petrie, and from a portion of the measurements therein recorded (the decimal numbers being rejected through a fear that they were only approximations) a unit of 5.6106 yards = 203 ± 1.0 inches was deduced. On comparing this value with the unit obtained from Squier's measurements (25.20 ± 0.4) it was found that if divided by 8 it was identical within about the amount of probable error, or 25.37 ± 12 . This result was communicated to the writer, who, knowing that the various measurements recorded in the journal mentioned were of equal value, decided to test the correspondence independently.

On working out the rather complex series of measurements it was found that some unexpected difficulties and coincidences were developed; and since both the details and the results of the examination will be of interest to any archæologist who may undertake a similar task, it has been concluded to present the process in full.

*On the Artificial Mounds of Northeastern Iowa, and the evidence of the employment of a Unit of Measurement in their erection." *Am. Jour. Sci.*, III., vol. xvi., Oct., 1878, p. 273.

No. of Observations.		Estimated Lengths.					Successive Differences.	No. of Units in Measured Length.	Total Lengths with Unit of 3.700 ft.	Computed Value of Unit.	Weight = $\frac{\text{No. obs.}}{\text{Length.}}$	Error of Computed Unit.				Total Lengths with Unit of 3.700 ft.	Difference from Measured Lengths.	Probable No. of Units of 2.125 ft.	Total Lengths with Unit of 2.125 ft.	Computed Value of Unit.	Error of Computed Unit.				Total Lengths with Unit of 2.140 ft.	Difference from Measured Length.		
Yds.	Ft.	I.	II.	III.	IV.	V.						Final.	Above 3.700	Below 3.700	Above 2.125						Below 2.125							
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
7	12	36	37
3	13	42	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
10	15	53	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
13	17	61	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
7	18	54	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
3	19	57	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
14	20	60	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
10	22	63	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
4	23	66	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
4	25	68	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
7	26	70	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
3	28	72	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
3	30	74	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
3	32	76	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
7	33	78	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
6	35	80	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
2	36	82	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
2	38	84	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
16	40	86	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
6	44	132	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
5	44	132	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
9	50	150	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
4	60	180	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
2	65	195	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
3	75	225	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
2	85	255	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
2	100	300	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

Length used in determining unit = 45 - $\left(3 \times \frac{3+14}{10+15}\right)$ = 44.27.

$= 57 - \left(3 \times \frac{7+18}{3+19}\right)$ = 54.86.

Guessed mean 3.700

True mean = 3.709

56.43 1.778 1.998 1.778 3.066 + 56.46 = 106.43, mean diff.

56.43 .009 .014 .009 .005

.0643 (= mean diff.)

$\sqrt{\text{no. obs. w'd. over } 1} (= \sqrt{12.5}) = 3.496$ $\times 7 = .011 \pm 2.140$

.857 .049 .857 .049 (-.003 ± .010)

.805 .006 + 56.46 = 106.60

2.125 .0125

* Length used in determining unit = $45 - \left(\frac{3 \times 14}{10 + 15} \right) = 44.27$.

† " " " " = $57 - \left(\frac{3 \times 7 + 18}{3 + 19} \right) = 54.86$.

Guessed mean 3.700
True mean = 3.700

$\frac{.0543}{\sqrt{\text{no. obs. w'd. over } 1}} = \frac{.0543}{\sqrt{3.469}} = .092 \pm$
 $\frac{.0543}{\sqrt{3.469}} = .092 \pm$
 $\frac{.0543}{\sqrt{3.469}} = .092 \pm$

In the accompanying table, the first and second columns, showing each of the dimensions occurring twice or oftener, and the number of occurrences, are taken from the paper cited. Equivalent lengths in feet are shown in column 3. Rough estimates were then made as follows: It was observed that 36 feet lacks very little of one-half of 75 feet, one-fourth of 150 feet, and one-eighth of 300 feet; and it was accordingly assumed that each of these measures was the double of the preceding one, and that while the first measurement was a little too short, the rest were a little too long.* The first dimension was accordingly taken to be 37 feet. It was then observed that $37 \times 1\frac{1}{2} = 55\frac{1}{2}$, $37 \times 3 = 111$, $37 \times 6 = 222$, and $37 \times 7 = 259$. These, with the binary multiples, were then placed in the first column of estimates, bracketing together 54 and 57, and 108, 111 and 114, to secure a still better correspondence. It was then found that multiples of 11 approach very closely to several of the dimensions. These were accordingly placed in the next column, 42 and 45 being bracketed together, as before. Several approximate multiples of 25 were then observed, and these were entered in column 6; and multiples of $29\frac{1}{2}$ were placed in the next column. The few remaining numbers were placed in the eighth column, 105 being reduced to correspond with the related numbers.

The various estimates were then considered, and those which were deemed most probable for each dimension (in view of the other estimates, as well as of the inaccuracies in measurement, which seemed most likely to have crept in), were grouped together in column 9. The successive differences were then placed in the next column.

Inspection of these numbers indicated that two divisors, viz., 7 and 8, or their halves, are roughly common to most of the differences—though the last does not seem to harmonize with the first dimension, nor so well as the former with the others. The first divisor was accordingly adopted, and the most probable multiples for each dimension determined. Several trials then indicated that the actual value of the unit was probably about 37. The products of this unit by the supposed multiples are given in column 12.

*These measurements were originally made, partly in feet, and rather more frequently in links. It was then found to be impracticable to make measurements which would be accurate within a much less distance than a yard, owing to the impossibility of determining either exact centers or peripheries of mounds; and as the earlier measurements happened to be reducible to yards with little if any remainder, they were so reduced, and later dimensions determined in yards. The principal reason for making the above estimates was to eliminate, so far as possible, any inaccuracy resulting from the employment of too large a unit of measurement; and hence the apparent disregard of measurements, which, as will appear presently, are doubtless pretty nearly correct. For the same reason, too, multiples of 3 were avoided in seeking approximate ratios.

In order to determine the unit more accurately, the value of the assumed unit for each *measured* dimension was then determined.* The weight of each was made equal to the square of the number of observations divided by the length; and the true mean value of the unit, the mean difference, and the probable error, were then determined by the method employed in one case in "Inductive Metrology," p. 29. Though this method gives a somewhat excessive probable error, that determined for the above seems sufficiently low to indicate a pretty fair degree of accuracy in the unit adopted.

It is obvious, however, in view of the irregularity in the above method of obtaining the unit, as well as of the rather high and irregular values of the assumed multipliers, that not only a low probable error, but *as accurate coincidence in every case as the unavoidable imperfection of the measurements will warrant*, will be sufficient to establish the correctness of the unit as obtained. The values of the several dimensions, as computed with the unit of 3.709, and the differences from the measured lengths, are accordingly shown in columns 19 and 20. It will be observed that the coincidence is not such as to inspire the least confidence in the correctness of the result.

The divisor least clearly suggested by the successive differences was then taken up. A few preliminary trials showed that $4\frac{1}{2}$ gave multiples approximately corresponding with nearly half of the measured dimensions; but to bring it into anything like harmony with the first dimension, it was necessary to again divide it. The most probable multiples were then sought, and the products determined. These were found to correspond pretty well with the measurements. The true unit was determined as before, and found to have a very low probable error—only .0032 feet. The correspondence between the computed and measured dimensions was then examined, and found to be quite close, especially in the dimensions of greatest weight. In one case the discrepancy is nearly one-half, and in two others over one-third of the unit; but each of these measured dimensions was rejected on first comparing the numbers. In only four dimensions not rejected, or one-sixth of the whole, does the discrepancy amount to one-fourth of the unit. The correspondence is even closer than was anticipated, when the imperfection of the measurements was taken into consideration.

On glancing over column 23 it will be observed that the value 2.143 occurs twelve times, often in connection with heavily weighted measurements—indeed the mean weight of all the

* The mean lengths for the numbers bracketed together were determined by dividing the differences proportionally to the number of observations divided by the lengths.

measurements in which this value occurs is greater than the average in the ratio of 2.58 to 2.26. These coincidences awaken the suspicion that this is the correct value of the unit, and that only those measurements which indicate a different value are erroneous. The value in inches of the unit would, therefore, be 25.716. As determined above it is $25.68 \mp .0384$. It will also be observed that eleven of the multiples are divisible by 7, which may accordingly be a super-unit.

FARLEY, Iowa, Dec. 13th, 1830.

THE TRIBAL CONDITION OF THE AMERICAN RACES A CLUE TO THE CONDITION OF SOCIETY IN PREHISTORIC AGES.

BY STEPHEN D. PEET.

The people on the American continent have great opportunities for the study of prehistoric subjects.

Not only are the relics and tokens of the prehistoric age presented before us in unusual number, but the very clue and key to an explanation of these relics is given to us by living races. The period which, on other continents, is consigned to remote and obscure antiquity is one which here immediately preceded the beginning of civilization.

We find at our very doors the relics which many travel to the remote regions of the East to secure. We have before us facts for which students have searched the buried lore of ancient languages, and are made familiar with the tales for which many have searched through the mythology and the archæology of the most remote and ancient races. That state of society which scholars tax their utmost efforts to discover in other lands, as the one which was antecedent to history, and from which sprang the civilization of the old world, is found here by us among existing aboriginal races, and the germ of all social growth is thus presented before our very eyes.

The discovery of the American continent brought this advantage to science, that the primitive condition of man was by it brought to view, and that the opportunity of studying it in living races is thus given.

By this means are we enabled to analyze the elements of the primitive stages, and at the same time we are able to throw back, even upon the prehistoric times, the light of the discovery which we thus make.

Now, among the elements which are here presented, probably none are more striking than the tribal organization which exists among the American races. This organism has not been fully

appreciated, and has rarely been employed as a key, either to primitive society or to the prehistoric condition of mankind; but we propose in this paper thus to use it.

In this country we have, to be sure, a state of things quite different from that found in older historic lands, since the high civilization of the Eastern continent has been suddenly thrust upon the uncivilized state which existed here, and leaves us without the opportunity of seeing in our own history how a nation grows out of a tribe; yet, after all, the tribe in its primitive form is presented before us, and so we learn, even by the contrast, what a nation springs from.

This nation was never born, and never grew, but has been thrown together by the migrations from other nations; but the opportunity of studying the primeval factors is presented in an unusual degree. The ripened fruit of American civilization differs materially from the wild blossoms of savagery, which are at our doors; but the organism of society may be perhaps better understood from examining the blossom than from the study of the fruit.


The wild blossom will soon disappear, and unless we analyze it soon we may fail to learn the law of its growth.

The point we make then, is, that the tribal condition, as found among the American races, furnishes a view of that state of society which preceded all history in all lands, and the picture of the early stages of society in all ages, both historic and prehistoric.

Wherever nations have had a natural growth, there we find the germ development to have been in this very tribal existence, and wherever civilization has dawned upon an advancing people, there the tribal condition has always preceded the civilized.

I. Of the tribal state in general we shall first observe that it is a state with which we are really familiar without being aware of it, and one which is common among all the races of earth.

Any one who has read the histories of Tacitus or of Cæsar does not need to be reminded of the fact that the opening page of history on the European continent discloses to our view various races and tribes, which, though advanced in many respects beyond the condition in which the North American Indians were found, yet, as to their tribal organization and their wandering life, present many points of resemblance. Apt illustrations of the mode of warfare, and of the form of government, as well as the customs of society, which have been described by these writers, are found among the various tribes on this continent; and it would form an interesting study to institute a comparison between them.



The sacred scriptures have also depicted the early history of the Israelites and of the Canaanites, and rendered us familiar with them in their early tribal state, and doubtless the Bible thus conveys to our minds a more correct idea of the tribal condition of society than perhaps any other book.

The various nations which dwelt in the vale of Siddim, and the invading hosts of the East, which came upon them suddenly and took them captive, five kings with four, were doubtless little more than local tribes with petty chiefs at their head, and Abraham himself, with his three hundred hired servants, was also little more than a wealthy Hebrew sheik, with his body of retainers or followers, acting as a substitute for a tribe, which was generally connected by tribal and natural descent to its chief or leader.

The Canaanites who contended with Isaac's servants for the well, were also in the tribal state. Although they were the owners of cattle, and so had reached the nomadic state, as were the Midianites and Ishmaelites who took Joseph into captivity, yet they and the descendants of Ishmael were merely wandering tribes, and Abimelech, and possibly also, Melchisedek, the mysterious king and priest of Salem, were only the chiefs of clans or tribes which dwelt in the land.

So, too, that great Hellenic nation, which Homer has so powerfully described, and over which he has thrown the halo of his poetry, when we come to analyze and study it, proves to be only a combination of Achaian, and other tribes, which had been brought together under the control of their chiefs.

The description of the residence of Priam in the walled city, and of the palaces, and of the treasures and magnificence of the Trojans, may convey the idea that they had passed beyond the tribal state, and that that condition of society had been reached which would be designated by the term *civitas*, city, rather than *phula*, or tribe; yet, doubtless, they had not emerged from that condition where the tribal organization predominated, and the term king was with them a name of no significance.

Certainly, when we compare the government which existed among the army of the Greeks and the arbitrary control the chiefs and leaders had over the men, and the freaks of passions and personal feelings of revenge which ruled the movements of the chiefs, and, in fact, were the source and mainspring of the Trojan war, we must place the stage of society described by Homer as in a tribal condition but little removed from a state of barbarism.

The arbitrary power of the military chiefs in the Homeric wars is more like that which existed among the Montezumas of Mexico and the Incas of Peru, than like the chiefs of the

runder and savage tribes of our frontiers, yet it is probable that both the Homeric and the Aztec chiefs were only the outgrowth of that tribal condition of society which existed before their time.

The beginnings of civilization present the phenomenon of a great centralized power in the hands of one grand despot, while the people are held in almost abject servitude.

The pyramids of Egypt and palaces of Nineveh, the grand *teocalli* of Mexico, and the wealth of the Incas, were all the results of this same despotic sway, which so generally prevails in certain stages of society. Even the reign of the despots in Athens, and of the kings at Rome, exhibits the same view. The power was concentrated into the hands of the leaders and rulers, while the most of the people are still in the rudest condition.

Thus, the opening page of history presents the same phenomenon everywhere, and we are thrown back to the prehistoric age for the explanation, and this explanation we may find in the tribal organism.


How this power of the chiefs and kings in the early days of history grew out of the tribal state is not so easily answered; but, as a fact, I think it will be acknowledged.

We know that in Mexico the office of king was hereditary confined to one family, although there was the election from the family of the one best suited for the office of king. So, too, we may learn that the office of king and chief was hereditary among the Greeks. Agamemnon, "king of men," was not only king by virtue of his noble and manly qualities, but he was also king by right of birth and descent; and the warrior, Achilles, held his position as head and chief of the Achaians as much by his family descent as by his military prowess and his personal traits.

The despotic sway of the kings of Egypt and of Assyria may have been partially derived from the combination with their office of king, of the religious power of a priest or prophet, and so the most arbitrary control both over the bodies and souls of their subjects was placed in their hands; yet, doubtless, much of this religious despotism originated in the prehistoric times from the tribal organism.

We find at least that in Mexico and Peru the religious element was the main source of the power of the Montezumas and of the Incas, and that this feeling amounted almost to the worship of the king. The same sacredness was gathered around the person of the king, and the same strange superstition in regard to his person prevailed in Mexico that we find in Egypt.

The statues of the Egyptian emperors are always colossal, four times as large as those of ordinary men, and the air of



divinity surrounds them; but in Mexico and in Peru the worship was manifested in the remoteness of the ruler from the people, and in the regard in which his very person was held.

Now, that this reverence for the king arose from the prevalence of the ancestral or the hereditary power of the chiefs is nowhere stated by history; yet, it seems probable that both of these elements conspired to give the early despots their power.


Ancestral power is one of the phenomena which appear in the early stages of society, and Hero worship was one of the most prominent features in the Greek mind at this stage of its history, and it is not improbable that both of those were owing to the peculiar relationship which the chiefs of tribes and the heads of families always had.

We know that among the Aryan races the family headship or paternal relationship was environed with a great amount of religious feeling, and that the penates and lares among the Greeks and Romans were not only the guardian divinities of the household, but were also emblems of the ancestral power which existed. The tribal descent was, with these races, always in the paternal line, and hence arose the feeling toward the father of the household, and hence, too the obedience to the king, who was only a father of the larger household, embraced in the nation and the tribe.

That there existed among the prehistoric inhabitants of America the same inherited power of the chief or king we do not maintain, for here the descent was invariably in the maternal line, and the tribal name and sign always was inherited from the mother rather than the father; yet, that in some way there did arise here also a certain reverence for the ancestral, and for the inherited power, we think, is proven by the facts.

We acknowledge that among the savage tribes there was no such despotic sway, and no such inherited office, for the warriors were generally the chiefs of the tribe, and the office of sachems or tribal elders was generally connected with the council house and not with active warfare. Yet we can imagine a stage of society to have arisen in prehistoric times, when the office of sachem or tribal elders might be so combined with that of of military leader and ruler that the power would be unlimited, and that thus the Incas and the Montezumas arose into power from their inherited tribal headship.

The evidence presented by the mounds of this country are that in certain districts at least, a state of inherited despotism prevailed, which was equal to that of any of the monarchs and hereditary rulers in other countries.



On no other supposition can we account for the immense structures and complicated works, and in no other way can we explain the purpose of the mysterious forms and shapes which appear in these works. In fact, we find an approximation to the historic despotism even among savage tribes known to history, and the supposition is that when we have a more complete knowledge of the prehistoric races, we shall be able to trace the tribal lines and the inherited power through all their stages, and thus be able to understand many of the works which are now so mysterious to our minds.

Now, that there was a tribal condition of society before the opening of history, in Greece and India, and even in Assyria, I think will be apparent. We know that in Greece the organization of society was according to tribal lines. The books of Homer, says Gladstone, unquestionably contain a mass of information respecting man in a primitive or very early stage of society, which has not even yet been thoroughly digested, and such as is nowhere else to be found. *Juventus Mundi*, p. 1.

"The Greeks had no sacred books, properly so called, and it is probable that the poems of Homer filled in some particular respects, the place of sacred books for that people." *Juventus Mundi*, ch. 1, p. 12.

Though a few of the books of scripture, and possibly a portion of the Vedas, may lay claim to a higher antiquity, the books of Homer, as a whole, are the oldest in the world. But if Homer teaches anything more clearly than another, it teaches this thing, that the Hellenic race was not yet come out of the tribal condition, and that tribes among both Greeks and Trojans were held together only by a common descent and by an inherited language, and by the religion which they had received from their ancestors.

The same fact is apparent in the sacred books of the East.

The illustration is indeed a general one, and the resemblance is in the outline; yet, that there is a fact here we think will be acknowledged by all, and we infer that the tribal condition was universal among all the prehistoric races.

We come to the conclusion, then, that the tribal state is the one which lies back of all history, both in Europe and Asia, and that we have the picture of the prehistoric ages in the different tribes and nations which once existed and still exist on this continent.

II. We maintain that the tribal state, which, with all its grades and shades, has existed, and still exists in America, furnishes to us the clue also to the different "ages" of the prehistoric times.

There is no doubt that the relics and tokens of the prehistoric ages have brought to light a true classification of the different stages of society, but the real picture of these stages, we maintain, is found in the tribal condition rather than in relics.

We have thus far drawn the comparison between the tribal organizations in America and those which are supposed to have existed in Europe and Asia, and have taken it for granted that these preceded history; but the question arises whether there was any such difference in the stages of the tribal condition that they could be said to form a basis of this classification.

It is worthy of observation that uncivilized society is subject to as much gradation as is civilized, and that the variations between the races and tribes before history have been as great as that since. This has proved true, especially of the American tribes.

A distinguished American author, Mr. L. H. Morgan, has divided primitive society into several grades, designated by the terms, lower, middle and upper stage of savagery, and lower, middle and upper stage of barbarism, and has clearly described the characteristics of each of these stages. Any one who has read his work, entitled, "Ancient Society," will be convinced that for purposes of defining and classifying, that the uncivilized state is even more distinctly graded than the civilized. It is worthy of remark, however, that on the American continent there are different degrees of civilization among the tribes which now exist, and at the time of the discovery there were living races which more fully illustrate this point. The native races have been described by the historians, and taking these accounts with the monuments and tokens which still remain, we shall not be at a loss to discern the various stages through which even the prehistoric races of America may have passed.

The comparison has been drawn between the Homeric record of the armies of Greece and Troy and the historical account of Mexico and Peru, but the query is, whether the traditional history of Greece and the probable history of the Aztecs disclose enough of the tribal state for us to draw the comparison.

That magnificence of ancient art, and that progress and culture which Homer has described certainly resembles much more the barbaric splendor of the Peruvian monarch and the wonderful magnificence of the Mexican empire than it does any other state. When we read of the shield of Achilles, we think of the wrought gold ornaments brought to the Spaniards for the redemption of the captive Inca, and when we read of Priam in his palace, we think of Montezuma in his city, and we find much more resemblance in the luxury, and power, and semi-civilized art and culture of these nations than we possibly can find elsewhere.

The condition of society described by the historians of Ferdinand de Soto had scarcely anything in common with that described either by the historian Prescott as existing in Mexico and Peru, or even with that described by Homer as the prehistoric condition of Greece.

The Spanish cavaliers traversed vast fields of corn which were cultivated by a peaceful, agricultural people, and frequently came to fortified villages or stockades, where dwelt the cacique and his warriors; but this was a stage of society in the lower stages of barbarism, and totally unlike the grand surroundings of the neighboring Mexican kingdom and the military equipment and naval life of the Grecian armies.

So, too, the Iroquois and Huron tribes, which the early Jesuit missionaries have described, and the other races which inhabited the northern and eastern portions of the United States, may be said to have nothing in common with either Greek or Mexican. Archaeologically considered, even, they may be said to belong to entirely different "ages."


At the time of the discovery, it would seem that all the gradations of uncivilized society were in existence, and that even the point of civilization had been reached.

And even now the relics and remains present the same phenomenon. Commencing at the eastern coast and traveling west, we find those longitudinal belts of prehistoric monuments and works, which show that all stages of culture did exist here, and that these stages were definitely marked by geographical lines.

First are the prehistoric relics of the Atlantic coast; next, the strange monuments of the Mound Builders; then, the stone fortifications and defenses of the Cliff Dwellers; after these, the complicated structures of the Pueblos; still, again, the ruins of the cities of Cibola, where was the original seat of the Aztecs; finally, the magnificent ruins of Mexico, and of Central America and Yucatan. So, again, as we pass from the north-west coast southward, we may find even in the living races the same gradation from the lowest savage to the highly civilized race.

The same shading which we find in other countries in historic times, we find existed here during prehistoric times, and the same differences which we see existing in more advanced races existed here during the tribal state. What is more, there seems to be a striking analogy between the two continents.

Take the two maps of Europe and America at the opening of history and compare them. Do we not find similar grades covering the different portions of each continent? From the southern coast or the Gulf of Mexico to the line of the great lakes northward, and from the southwestern region of Mexico



to the northeastern corner on the Atlantic coast, there are all shades and grades among the tribes of America, just as there were among the races which dwelt between the ancient cities of Greece and the distant coasts of the British isles, and between the coast of the Mediterranean and the North Sea.


The one class had reached the latest stage of the bronze age, and had almost reached the culture and power of the iron age, and the other were in the lower stage of the stone age, and might be classed almost with the rudest people of prehistoric times.

It is remarkable, however, that throughout all these grades we find the tribal organization everywhere, and nowhere do we discover that civilization or culture had driven it away.

The tribal state of the savage races may be regarded as one extreme, and the national life of the semi-civilized races of America as the other; but there is in the American races all the range of progress that we find between the Britons and the Romans in England, including the Celt and Saxon dominion, and all that advance in culture which marked the early and later stone age, and the bronze age in Europe, including the Swiss lake dwellings, and the rude stone monuments, and even a portion of the later monuments of the Roman dominion.

The only difference is, that here history arrested the development of the tribal state, and from that day to this all progress in aboriginal society has ceased. Still, as an illustration of the prehistoric state of Europe and of Asia, we may conclude that enough specimens of the lower and primitive races remain on this continent to show both the peculiarities of that state and the different stages through which society must have passed during the prehistoric ages. We take it for granted that the tribal state prevailed throughout the whole of the prehistoric age, and our work now is to so study the different stages of the tribal state, that we may see how they fit and correspond to the various prehistoric tokens which are presented. If, by any means, we should find that the modes of life among the North American races correspond to those of different "ages" which in Europe and in Asia are assigned to the prehistoric times, we shall be able to people their relics and their remains with a spirit and a power which they never had before. Thus, too, may we arrive at some of the sources of society, and so help solve some of the problems which have baffled so many. The science of religion, as well as ethnic and social philosophy, are awaiting the investigations of scholars into these subjects, and it is to be hoped that the tribal condition will be studied before it disappears.

III. The populations which have existed in prehistoric ages furnish another subject of inquiry, to which the tribal condition of this continent may furnish the clue.



On this point our first remark is, that in reality the tribe always furnishes the germ from which all nations and races grow.

We look over the various nations of Europe and of Asia, and we trace all nations back to certain races, and all races back to certain great stocks or families; but we must remember that back of these nations, races, and stocks, was the tribe.


Though it seems hardly possible, yet all that we need to do is to follow up the stream of history, and trace the lines of language and of ethnical affinities, and we find that the large majority of the races now existing were found as separate tribes and clans at the time of the dispersion in Central Asia.

Thus have arisen, according to ethnologists, not only the three great families or stocks, such as the Semitic, Aryan and Turanian, but also the subdivisions into Assyrian, Syrian, Hebrew and Phœnician, of one stock, with the Slavonic, Teutonic, Celtic, Hellenic and Latin of the other, and with the Malay, Mongolian, Polynesian and American from the third. Of course it is difficult to trace the prehistoric record and to identify the different prehistoric relics or tokens with these known families; yet, the work has been done in certain cases, and there is no reason why it might not be done in others.

It is remarkable with what clearness the celebrated Dr. Dawkins traces the prehistoric relics of Europe, such as the cave contents, the megalithic monuments and the lake villages, to the existing people, such as the Esquimaux, the Basques, the Britons, Belgians, Celts and Saxons, identifying the remains with the earliest tribal condition of those races. This work has not been done on the continent of America, but on the contrary the great tendency has been to ignore existing races altogether in the study of antiquities, and a wonderful air of mystery has been thrown over the whole subject, as if a multitude of races had disappeared and left no clue whatever to their existence.

In favor of our position, however, we would call attention to two facts: First, to the persistency with which the various tribes have held to an existence, and, second, to the different condition of the same race at different periods of their history. The state of a people in prehistoric ages may differ from their state in the historic, but the change may really be owing to the changes among the people, rather than to any change of race or disappearance of the people.

The native tribes are the most persistent of all peoples. Language and customs may change, national disintegration may take place, and there may be the entire subjugation of a people, but the tribal state will survive it all.



There are few civilized races which could endure the constant defeat and almost complete destruction which the various tribes of North America have passed through. The empires of the far East were never overrun by more forces, or experienced more crushing and sweeping calamities, but they lie waste, covered with the tombs of twenty and thirty centuries, while the wandering tribes of the Bedouins, which existed while they flourished, still haunt their ruins, and the tribes of savages which then inhabited these distant lands also continue before the march of the advancing hosts of civilization.

Men have been surprised at the vitality and persistency of these various Indian races. Though they seem to have been broken up time and again, yet it is strange that scarcely one of the tribes known to early history on this continent has ceased, and though they have nearly all been removed from their original territory, and have passed through frequent removals since, yet we find the same names continuing in other portions of the map and the number, even, remaining nearly as large as at the beginning. The only nations which have disappeared are those which were originally found in confederacies or nations, like the Iroquois and the Illinois. But even these have not been destroyed, for the tribes of which they were composed nearly all survive to the present time, though scattered in various portions of the land.

There are names which we miss from the maps, such as those of the Eries and of the Illinois, but it is yet uncertain whether there are not certain of the tribes to which these names belonged still existing. Their extermination occurred in the warfaré which existed between them and the Six Nations or the Iroquois, but their incorporation with the Wyandots or with the Shawnees may have gone on unknown to history, and so the fragments of these mysterious tribes be still in existence among us.

There is a strange fact in the tribal organization of this country. Each tribe contains within itself a certain number of gentes or clans, each of which has all the characteristics of a tribe in itself, with its heads of houses, its hereditary names, its chiefs and officers, its totems and emblems, and, so far as known, also its separate history and its peculiar ancestry. Now, when the tribe is apparently destroyed and exterminated, all that the survivors need to do is to gather the fragments of the clans together again and some one or all assume the tribal name, and the snake, which seemed to be cut to pieces, joins together again and still lives. The treatment of the Indian tribes has gone on in a total disregard of this first principle of ethnology, for every time a treaty has been made the policy has been to secure the territory of the tribes but to preserve intact the tribal organism,

and the effect has been that the place of habitation has been changed, but the social and ethnical status has remained exactly the same, and they will continue so to the end of time, unless by some means the tribal condition shall be broken up and citizenship and civilization be impressed upon them by the law of property in severalty and the process of individual assimilation and absorption.


Missionaries have labored among these tribes for years and found that the power of resistance was unbroken, and yet could hardly understand why it was so. At last some fearful war, like that of the massacre in Minnesota, has brought the vengeance of the government upon the murderers. Imprisonment of their chiefs, and the removal from their tribal territory, and a variety of causes, have conspired to break down the tribal integrity and feeling, and then, all of a sudden, the success of the gospel has become apparent and the conversion of the people has rapidly followed. The government has dealt with these tribes also for centuries in the past, and the wonder has been that, with the amount of bloodshed on one side and of expenditure on the other, there has not been more change in these races, and either destruction and extermination or subjugation and civilization, but the fact is that the tribal organization has been the great barrier, and wherever it has continued it has been perfectly insurmountable. The tribal state, then, is the conservator of populations, and is proof that the same races now exist that did exist during the prehistoric times.

A third fact is worthy of observation, that is, that the appearance of civilization on the American continent, as in Europe and Asia, occurred in connection with a succession of races, but that this succession occurred during the tribal condition.

A double wave of civilization appears to have existed in Mexico, in Yucatan and in Peru—two races differing materially following one another in all these countries. In this respect the two continents present striking analogies. History opens with two kinds of civilization.

In Greece there were two races, the Pelasgian and the Hellenic; in Italy two, the Etruscan and the Latin; in India two, the Dravidian and the Aryan; in Assyria two, the Chaldean and the Assyrian; in Syria two, the Canaanite and the Hebrew; in Egypt two, the Hyksos and the Egyptian, and so elsewhere. What there is in a double wave of population which should introduce civilization, we do not know, yet the fact is worth noticing.

The succession has not always resulted in the improvement of the population, for there are many cases where a cultivated race has been followed by a savage or barbarous one, and the progress




for a time has been backwards. The Mound Builders were more advanced than those who followed them, and the Romans were more civilized than the Goths and Gauls, who intruded themselves upon Europe, yet, generally, civilization has appeared in this change of races.

The tribal condition existed through all these changes and was an integral part of the national existence in all these countries, showing how fundamental and organic it is. Indeed, we find the tribal organism continuing through other changes. In the Hellenic race it went through all the changes, from the time of the Trojan war and the Achaian league through the Dorian migration and the rise of the separate nations, even until Sparta, Athens and Megara became separate cities. So, too, in Rome, under the Tyrrhenians, Etruscans, Albanians and Romans. We find it continuing even into modern history, the Britons, Gauls, Celts and Saxons not having left their tribal organization until long after history opens. In fact, the tribal state never disappears until landed possessions take the place of social organization, wherever and whenever that is. The introduction of the "deme" or local township, under Kleisthenes, broke up the tribal organization in Greece, and the rise of the city and of the state destroyed it in Rome.

So far as civilization is concerned, there seems to have been no organism to it. Indeed, civilization may be regarded more as the result of environment than of organic growth. In America, it was largely confined to certain latitudes and was the result of circumstances.

Civilization is, to be sure, a quality which seems to belong to some races. There are races which always have been civilized, and other races alongside of them which can by no means be brought into the same state. This is true of the North American races in an eminent degree, but it is not true of them alone. The Mongolian tribes, which still inhabit Europe, and the Dravidic races, which are found in the hill country of India, as well as many of the tribes of Africa, have long been in contact with civilization, and yet remain exactly as they were centuries ago. This is not owing altogether to their tribal organization, but to their race qualities. The difference between the Turanian and the Aryan races has been manifested in this as in nothing else, and, in fact, to-day we find that the civilizations of the world can be defined as clearly by the race lines as by any other distinction.

This may be one reason why the American races did not attain to civilization, for the Turanian is preëminently an uncivilized race. History does not record when their migrations took



place, nor whence they came, but it would seem that there was an endless train of savage tribes which overran this whole continent.


The contact of the barbarous hordes of the north with the cultivated nations of Europe was close and direct, but their growth and progress into a civilization was not so much more rapid than was that of certain races in America as we have been accustomed to suppose. The dark ages settled down upon all Europe and enveloped all the progress and learning of the past in its grave, and it took several hundred years for even that land to emerge from the reign of barbarism.

The tribal state of Germany, France and Great Britain may have begun to disappear before the Christian era, but during the middle ages there evidently was the rise from it of the feudal system, and the beginning of the national growth of modern Europe; and the very varieties of population—Basque, Norman, Celt and Saxon—came from the early divisions into tribes and clans of races, which were once the savage races of America, and not unlike them in organization and structure. Their contact with other cultivated nations was closer, and their original condition was better than the North American Indians, but of their early state the latter presents as good a record as we can find. The illustration holds good further, for we find the tribal condition gradually merging into the confederacy, and the confederacy into the national life, just as the tribal condition of Europe first passed into the feudal state, and from the feudal into the national life; and so we may trace the resemblance all the way through.

Now that the tribal condition may be given as the clue to the prehistoric races of Europe and Asia, and of this continent, I think will be seen from the different stages in which we have found the same races here and elsewhere.

IV. As to the state of society in the prehistoric age, in regard to modes of living, government, religion, and other features, we have a much more difficult task; yet here again we maintain that the clue is also furnished in the growth of the tribal state. It is remarkable that we have in this country both the monuments and the people, so that we may compare the one with the other, and thus test the results of our own studies.

We may not know to what race the prehistoric relics and works of Europe belong, nor do we know for a certainty to what race those of America belong, but if the clue to the religion, the government and the actual life of the prehistoric inhabitants of America can be found; we believe it can also to that of the prehistoric times in Europe. (The tribal condition of the early inhabitants of Europe is, fortunately, being studied.) The cast of mind



the Indo-European differs materially from that of American races, and hence we should expect the prehistoric works erected by them would have characteristics peculiarly their own; yet a similar status of society would naturally be attended with works which were at least analogous.

As a supplement to the light which the early tribal conditions of the modern European races may throw upon these works, we may look to the evidence furnished by the American tribes. By this means we are not only thrown back to a more primitive condition than can possibly be brought before us by history, but we are carried through the different stages in which prehistoric society in Europe may be supposed to have existed.

That strange history of Greece while still in its tribal state presents many things which have their correlatives even among the rude tribes of North America, and could we trace back still further the customs and organizations, we doubtless would find in the earlier and ruder stages far more striking analogies than we do. Not only are there analogies in the Hellenic tribes, with their Achaian and Amphictyonic leagues and other features of early history but even the political government, such as the agora, the council and the ephora of Sparta, seem to be founded on exactly the same principle. Now, taking into consideration the great difference in the races and their descent, and the wide distance which intervenes between them, and the difference in their surroundings, it would seem that only the natural organism which exhibits itself in the tribal condition everywhere could account for these analogies. But if this existed in historic times it might exist in prehistoric times. If the organism could produce analogies between races so far separated as the North American tribes and the Hellenes of Greece, certainly it could also produce analogies among those of the same race and of the same continent.

The prehistoric monuments of this country have been relied upon as evidences of the different conditions of society in prehistoric times. Thus, the works of the Mound Builders, of the Cliff Dwellers, of the Pueblos, the palaces and pyramids and the ancient mines of Mexico, prove not so much the existence of different races, as that the different stages of society existed. But the great point is to so study the class of evidences that they shall fit the living races.

There may, indeed, be theories in reference to the communistic houses of the prehistoric inhabitants which will not bear the tests of the monuments, and there have been theories in reference to the prehistoric works which do not compare with the conditions of existing facts, but doubtless the theories may help the study.

The village life and the agricultural state may be indicated by the works of the Mound Builders. The military life and the social habits, and especially the religious views and customs, may be found in the symbols or totems. Other features of native life and organization are presented in the various emblematic mounds, burial heaps, sacred enclosures, walled defenses and other works. The communistic states of families, the complicated relationship, the peculiar mode of worship and the system of the priesthood, and many social habits, may be indicated by the stone structures, the round towers, the many storied dwellings, the estufas and other peculiarities of the Pueblo and Cliff Dwellers. So the confederated nationality, the imperial power, the complicated and mysterious worship, the bloody sacrifices, and the elaborate emblems of office, and even hieroglyphics of thought may be presented in the ruins of Mexico and of Yucatan. But to understand them we need also to study all the varieties of native society, bearing in mind that the tribal growth furnishes a clue to all. So, too, of the prehistoric tokens in Europe, the shell heaps, the relics from the gravel beds, the cave dwellings, the Palaffittes, the Dolmens and Cromlechs, the rude stone monuments, the circles of Stonehenge and Avebury and other remains all may indicate the different customs, habits, modes of life, religions and organizations of prehistoric society; but they never will be understood until we see the correlating states of society in some existing race, and we know of none which can better exemplify the actual facts than the various races and tribes of North America. The habits and customs among the prehistoric inhabitants of Europe may have been very different from those of America; but if the tribal growth in Europe was similar to the same growth in America, as it probably was, we believe that the clue to even those mysterious and much studied prehistoric works can yet be discovered, either among the historic records of that country or among the existing tribes of this continent.

The Oriental Department.

SOLAR SYMBOLISM IN THE ANCIENT RELIGIONS.

BY REV. O. D. MILLER.


We shall aim to establish in the present article a great and important fact, which was fundamental in nearly all the religions of antiquity. The fact to which we allude is, that the sun in the three phases of its course, its diurnal, its annual and its conceived cosmical revolutions, had been taken *as a type of man; as a symbol of human existence*. It is due mainly to the results of modern research that this principle, so generally recognized by the ancients, yet so rarely apprehended by modern writers, in its full significance and bearings, admits now of being placed in the clearest light. While distinct traces of this solar symbolism are discovered among all the cultured nations of the ancient world, it was undoubtedly among the Egyptians that it received its most marked and systematic development. It will be our first object, therefore, to show how fundamental and deeply rooted in the Egyptian religion was the conception of the sun's course as a type of the life of man. Dr. H. Brugsch-Bey remarks:

"The Egyptians embodied a profound and ingenious idea, in relation to man's existence, in comparing his earthly pilgrimage to the daily course of the sun, and his future life to the invisible, nocturnal course of the same star." ¹

In the foregoing extract the symbolism is supposed to be founded upon the sun's diurnal revolutions; but in the subjoined passages from the same author, the annual sun is made the basis of the typology:

"According to Macrobius, the Egyptians represented the sun at the winter solstice as a little child; at the vernal equinox, as a young man; at the summer solstice, as a middle-aged man, and parting from the autumnal equinox, as an old man." Again, "The interesting notice derived from Macrobius, teaches us that the Egyptians compared the annual course of the sun to the four principal stages of human life—infancy, youth, manhood and old age." ²

It makes but little difference whether the sun's course is compared to the life of man, or human life to the sun's course, there is solar symbolism in either case. But, in point of fact, the sun is not to be taken here as the subject of comparison, the life of man being made a type of it; on the contrary, it is human life



in its four principal stages which is typified by the four principal epochs in the sun's annual revolution. It is the annual instead of the daily course which is made here the ground of the symbolism.

In the following extracts from the writings of M. Mariette-Bey, the basis of the typology alternates between the diurnal and cosmical suns:

"In the celestial spaces, from the sides of *Neut*, the spouse of Seb, issues the god Ra, the Sun-god, and with him commences the *light*; that is to say, *the life of man*. Originally, Osiris is the nocturnal sun; he is the *primordial night* (of chaos); he is consequently anterior to Ra, the Sun of Day. The life of man (on earth) had been assimilated by the Egyptians to the course of the sun above our heads; the sun which disappears at the western horizon was then the image of his death. The image of death had been taken from the sun which disappears at the horizon of evening; the resplendent sun of morning was then the symbol of a second birth to a life which this time knows no death. Osiris, King of Hades, is not then the avenger of faults; on the contrary, charged with the salvation of souls from death, he is intermediate between God and man; *he is the type and Savior of man.*"³

Osiris, whether as nocturnal or as winter's sun, appertained to the lower hemisphere, which was the region of the *Ameut*, the Egyptian Hades. As nocturnal sun, Osiris was also regarded as a type of the sun before its first rising, or of the primordial night of chaos, and as such, according to M. Mariette, his first rising—his original birth to the light, under the form of Ra, symbolized the birth of humanity itself in the person of the first man. It is obvious, that in this phase of his character, Osiris was to be considered as the cosmical sun. The expression, "The type and savior of man," as applied to the sun by M. Mariette, embodies exactly the Egyptian doctrine as is now recognized by the Egyptologists of Europe. But M. Lenormant also has developed at some length this solar symbolism of the Egyptians. The following may be taken as representative of his views:

"The spirit of the Egyptians preoccupied itself before all, with the destiny that attends man after death. This star (the sun) appeared to them to reproduce each day, in the march which it accomplished, the transformations reserved for the human soul. The soul, immortal like Ra, accomplished the same pilgrimages."⁴

M. G. Maspero, of the College of France, alluding to the various stages of human existence observes:

1. Egypt, Mon. de R. Museums, pp. 70-71.

2. Du Calend. des Anct. Egypt, pp. 44-45.

3. Musée de Boulaq, etc., pp. 20-21, and 100-101; also La Mère D'Apis, pp. 48-49.

4. Manuel D'Hist. Anct. de L'Orient, T. 1., pp. 523-526.

"Each of the stages of this existence, and above all the life of man, corresponded to a day in the life of the sun and of Osiris. The birth of man was the rising of the sun in the east; his death, the disappearance of the sun at the western horizon. After death man became Osiris, and descended into the night till the moment of his rebirth to another life, like Hor-Osiris to another day." ⁵

Finally, M. F. Chabas remarks that: "The defunct during his Osirian life associates himself with the course of the sun, the quotidian symbol of death and resurrection." ⁶

The foregoing statements of distinguished Egyptologists, to which other testimonies might be added indefinitely, will be regarded as amply sufficient to establish the prevalence of this solar symbolism in the valley of the Nile. Nor were these notions comparatively of modern date; they may be traced in the texts of the early epochs; and it is probable that they dated from the origin even of the sun-cultus in Egypt. As will have been observed, the basis of the symbolism, according to the notions purposed. Among the authors cited one alludes expressly to the cosmical sun. M. Mariette regards Osiris as the sun of the which have been cited, is more frequently the diurnal course of the sun; though its annual revolution is also employed for the primordial night, and his original birth to the light as symbolizing that of humanity itself. The fact is, as M. Eug. Grébaut has shown, that the Egyptians regarded the diurnal sun as a type of the cosmical sun, both being symbols of man. Alluding to that sun this author remarks:

"Turn by turn it was the rising sun, the diurnal sun, the setting sun, the nocturnal sun, the new-born sun. It is beyond all doubt that these forms represented the successive rôles of the same god at different hours of the day, and that in discarding the secondary, they reduce themselves to two—the nocturnal sun and the daily sun, which, succeeding to the first, dissipated the darkness on the morning of each day, and renewed the triumph of Horus over Set; that is to say, *the cosmical victory which determined the first rising of the sun, the organization of the universe at the commencement of time.* Ra is the sun, who, after having marked the *commencement of time*, continues each day to govern his work. * * * * He succeeds to a *primordial form, Osiris, the nocturnal sun, or better, the sun before its first rising.* The birth of the sun, when it issues from the nocturnal heavens, *is the image of its first rising.*" ⁷

Other eminent Egyptologists might be cited to the same effect. The Egyptians recognized distinctly the three phases of the sun's

5. Hist. Anct. de L'Orient, p. 39.

6. Sur le Chapitre VI., der Ritual Egyptian, p. 3.

7. Revue Archeologique, T. xxv., 1873, p. 393, and note.

course—the daily, the annual and the cosmical. Nor were these notions confined to the Hamites of Egypt. Dr. P. Asomes (*Die Indog. Religion*, etc.) has traced the development among the Hindus, Persians, Greeks and other Aryan races, of what he terms the day-myth, then the year-myth, which last passed over into the world-myth or world-year. Obviously the day-myth was founded on the sun's daily course, and the year-myth upon its annual course; thus it is necessary to suppose also a cosmical course of the sun, as the basis of the so-called world-myth, world-year, more properly cosmical year. It is well known that the Babylonians, and other peoples of Western Asia, had their cosmical year, supposed to have opened at the dawn of the creation. No doubt can exist that this cosmical or world-year was based upon a conceived cosmical course of the sun, the same as the ordinary year upon its annual revolution.

We have now to trace the existence of the solar symbolism among the Hindus or the Aryans of India. The character of the Vedic Yama, the reputed first man among the Hindus, very much resembled that of the Egyptian Osiris. Although Yama and Yami, his twin sister, were conceived as the first human pair, there can be no doubt as to the reality of their solar character. We have here an instance in which the sun is taken as a type especially of the first man, as well as of man in general; or in which the twin suns, male and female, are put for the first human pair, also regarded as twins. But it is probable that in cases where the sun typified especially the first man, this was to be understood expressly of the cosmical sun, instead of the daily or even annual. The birth of Yama and Yami from the storm-cloud, which replaced the watery chaos of other cosmogonies, shows that the sun Yama represented its cosmical phase, as well as its diurnal and annual. Respecting the human character of Yama, Prof. Whitney remarks:

"In him and in his sister, Yami, are conceived the first human pair, parents of the whole following race; he is, therefore, as is expressly stated in the hymns, the first who made his way to the skies, pointing out the road thither to all succeeding generations, and preparing a place for their reception; by the most natural transition, then, he becomes their king. It is in entire consistency with this that, in the Persian story, where he appears as Yima (later Jem-shid), he is made ruler of the golden age and founder of paradise."⁸

Prof. Whitney cites Prof. Roth, in a note, as holding substantially the same views. Yama and Yima were the same originally, and represented the first man. At the same time it is not to be doubted that Yama was the sun, and, as before remarked,

8. *Orient. and Ling. Studies*, p. 45.

the legend of his birth shows that he was the cosmical as well as diurnal and annual sun. Prof. Max Müller observes:

"That Yama's character is solar, might be guessed from his being called the son of *Vivasvat* (the sun). The sun, conceived as setting or dying every day, was the first who had trodden the path of life from east to west—the first mortal—the first to show us the way where our course is run, and our sun sets in the far west. Thither the fathers followed Yama. . . . These are natural feelings and intelligible thoughts. The question is, Were they the thoughts and feelings that passed through the minds of our forefathers when they changed Yama, the twin sun, the setting sun, into the ruler of the departed and the god of death?"⁹

Prof. Müller rejects the view that Yama was the first man, mainly, as it would seem, for the reason that he was unquestionably the sun. But in this he forgets that, in all antiquity, the sun had been taken as a type of man, and especially the cosmical sun as a type of the first man. A recent and very able critic, Dr. G. Grill, takes the ground that Yama was the sun, but also the first man. Thus he says:

"As to what, before all, the pair Yama and Yami denotes, we may adopt the opinion that we have to recognize in them a type of the first human pair. For that Yama, the brother of Yami, is identical with Yama, the god of the dead, is directly implied when the first is called the 'one mortal.'"

Again: "We have to recognize in him an express representative and personification of the sun."¹⁰

Dr. Grill maintains likewise that *Manu* was regarded by the Hindus as the sun and at the same time as the first man, thus: "The notion of *Manu*, even in high antiquity, was taken in the sense of the sun as well as in that of man, especially as the man *Kar'εξ*, i. e., the first man."¹¹

But our author would resolve the universal tradition of a first man into a solar myth. The first man, in his views, was merely the sun personified. The facts show, however, that the sun stood not alone for the first man, but also for man in general. This proves that we have here solar symbolism and not a solar myth. The sun's course was taken as a type of human life in its general sense; it was only the cosmical sun which symbolized the first man. In order to prove the existence of a solar myth,

9. Lect. Sci. Language, Md. Series, p. 534.

10. Die Erzväter der Menschheit, pp. 149, 150.

11. Ibid., pp. 148, 150, notes. Not only Dr. Grill, but M. Senart also, regards Prof. Müller's objections to the view that Yama was the first man as not of sufficient weight to prevail against Dr. Roth's theory, indorsed by Prof. Whitney. (See Senart's *Legende du Buddha*, Jour. Asiatique, April-May, 1874, p. 274, Cf. Prof. Kuhn, also, as cited by Senart, Id.) Thus the voice of the best and most recent critics is plainly opposed to Prof. Müller's views.

with reference to the first man, it must be shown that the sun was put exclusively for the first man; but we have seen that such was far from the truth.

As regards the prevalence of this solar symbolism in the valleys of the Euphrates and Tigris, we have no direct testimony of authors, nor do the cuneiform texts afford any proofs of it of a direct character. Nevertheless, the evidences are quite abundant and conclusive that the sun was regarded as a type of man, not only in the country of the Euphrates and Tigris, but generally throughout Western Asia. These evidences consist in the wide acceptance of ideas which necessarily presuppose the solar typology of which there is here question. The ideas to which we refer are:

First. The conceived location of Hades, or the Infernal Abodes. Among the Egyptians, the Chaldeans, Assyrians, and the populations generally of Western Asia, it is, beyond all doubt, that the abode of the dead was conceived as the region of the nocturnal sun; that is to say, the lower hemisphere of heaven, through which the sun passes between sunset and sunrise. The entrance to this world of darkness and death was thought to be in the west, for the reason that this was the region of the sun's descent at evening into the under world. The Egyptian name of the under world, *ameut*, signifies, literally, "the west," as being the place where the solar orb descended into the dark realm of night. That the same order of ideas prevailed at Babylon is proved, among other evidences, by the legend of the descent of Ishtar into Hades, which has been so much studied by Assyrian scholars. The particular region into which this goddess descends, in order to meet her beloved *Zur-zi*, the sun-god, who had suffered a violent death, is described in the Assyrian, as follows: *Ana bit sha eribu-su la atzu-su*; "To the house of his entering, but not his departing" (Col. I., l., 5). The primary reference here is to the sun; to his entrance in the west into the region of the nocturnal heavens, and to his departing from thence at sunrise in the east. The negative particle—*not* departing refers to the supposed fact that, while man, like the sun, descends into this region of darkness and death, he does not return, like the sun, to the upper world again. As Dr. Talbot remarks, the two terms, *eribu*, "entering," and *atzu*, "departing" are often placed in opposition, their primary reference being to the sunset and the sunrise.¹² It is important to note, also, as stated by Dr. Talbot, that the Assyrian *Eribu* (Heb. עֶרֶב) is the original of the Greek *Erebus*, the world of darkness, situated in the west, where the sun sets, the conceived entrance into Hades.¹³ Thus, it is perfectly apparent, from these

12. See Trs. So. Bib. Arch. London: Vol. II., p. 188.

13. Id. Cf. Smith's Class. Dict., Art.

data, not only that the conceived location of Hades was in the nocturnal heavens, but that this location had been determined by the nocturnal course of the sun, whose setting in the west was regarded as its descent into the abode of the dead. But from whence arose this circle of ideas, so singular, yet so natural, when all the facts are considered? It arose from the fact that the solar orb had been taken as a type of man; its course as a symbol of human existence. It is impossible that these notions could have taken their rise from any other source than this solar typology. As the representative of man, the descent of the sun in the west, into the nocturnal heavens, symbolized the death of man, and his descent into Hades. Thus, the location of Hades was fixed in the region of the nocturnal sun. But the region of the winter's sun is also the lower hemisphere of heaven, although, in a sense, a little different from the nocturnal heavens. The solar orb, in fact, was supposed to descend into the kingdom of darkness, cold and death, during the winter season, the same as during the night. Thus, the location of Hades, as conceived by the ancients, alternated between the extreme west, where the sun sets at night, and the extreme south, whither it descends during the winter months. In the one case the location of the abode of death was determined by the daily course of the sun, and in the other by its annual courses. It was the annual sun that descended into the extreme south during mid-winter. We see, thus, how this solar symbolism had determined the location of the abode of the dead, the sun being regarded as a type of man, and especially of the first man, the representative of the whole following race, he was supposed to pass through the same experience. The sun was conceived to die and descend into Hades, when it disappeared from the western horizon; and this fixed the location of Hades in the region of the nocturnal sun. It is impossible to give any other explanation of the known facts. That the Egyptian *Ameut*, or Hades, was thus located, and that this location proceeded from the symbolism attached to the solar orb, is proved by numberless hieroglyphical texts. It was the same in the country of the Euphrates and Tigris, and so throughout Western Asia. But another notion which presupposes the existence of this symbolism is that embodied—

Second. In the legend of the dying sun-god. The wide prevalence of this legend, and its extreme antiquity, are facts familiar to all Orientalists. There was the Egyptian Osiris, the Syrian Adonis, the Hebrew Tamheur, the Assyrian *Du-Zu*, all regarded as solar deities, yet as having lived a mortal life, suffered a violent death, being subsequently raised from the dead. It was impossible that such notions should take their rise, if the

sun had not previously been taken as a type of man; its course as a symbol of the life of humanity. This dying sun-god was conceived, as Prof. Paine has already expressed it in the second number of the *Oriental Journal* (p. 64), as a veritable "god-man." As the glorious orb of day, he was worshiped as a divinity; but as a mortal, he had lived on earth, sharing the common destiny of the race, of which he was the conceived type and representative. We have here a demonstration of this solar symbolism in the ancient religions. This so-called legend of the sun-god was not, originally, a legend, nor was it a solar myth. How was it possible to conceive the solar orb as dying, and as rising from the dead, if it had not been already taken for a mortal being, as a type of mortal man? It is pure assumption, and contrary to reason to set up here a legend or myth instead of a symbol. The myth was rather the corrupt, defaced form of the original typology. We repeat the proposition; it was impossible to conceive the sun as dying and descending into Hades, until it had been assumed as a type and representative of man. Respecting the antiquity of this solar symbolism, we can only judge something of it from the unquestioned antiquity of the notion of a dying sun-god. It is probable that both appertained to the very earliest epochs,—to the prehistoric ages. When was the Vedic Yama first conceived as the first man, and at the same time as the sun? This period certainly antedates all history of the Aryan races. The reign of Osiris in Egypt, his war with Typhon, his death and resurrection, were events appertaining to the divine dynasties. We can only say, then, that the origin of these symbolical ideas was extremely ancient, without attempting to fix its chronology.

It remains for us now to point out, as briefly as possible, the more important bearings of the principle which has been, we think, fully established. We have long been of the opinion, which was suggested many years since, by Sir G. Wilkinson, in the language following:

"The suffering and death of Osiris were the great mystery of the Egyptian religion; and some traces of it are perceptible among other people of antiquity. His being the divine goodness, and the abstract idea of good; his manifestation upon earth (like an Indian god), his death and resurrection, and his office as judge of the dead in a future state, *look like the early revelation of a future manifestation of the Deity* converted into a mythological fable."¹⁴

The use made of the notions connected with the Egyptian Osiris, the Syrian Adonis, etc., by Dupuis, Nosk, and others of their school, to discredit the historical character of the gos-

14. See Notes to Rawlinson's *Herodotus*, Amer. Edit., Vol II., p. 219, Note 3.

pel narratives concerning the death and resurrection of Christ, is familiar with all scholars. These writers insist that this portion of the gospel history is only a repetition of the legend of the dying sun-god, and is thus destitute of any actual historical verity. In our view, the solar symbolism of which there has been discussion in the foregoing remarks, affords the proper point of view from which to vindicate the historical character of the gospel narrative of Christ's death and resurrection. Again, and as already stated, Dr. Grill maintains that the traditional first man, as Yama of the Hindus, Adam of the Book of Genesis, was merely a personified sun. Dr. Goldziher (*Mythos bei den Hebräern*) holds, substantially, the same opinion; and to those writers may be added, among others of the same school, Dr. Gustave Schlegel (in his *Uranographie Chinoise*, etc). Not only, according to these authors, were Adam and Eve mere personifications of the sun, but the history of the temptation and fall, the promised seed of the woman, and the serpent itself, were to be interpreted of the sun, and its battle with the principle of darkness, like that between Osiris and Typhon, Horus and Set, in the Egyptian religion. All is thus resolved into solar myths or legends, instead of actual personages and literal history. As regards their statements of the facts, it must be admitted, in candor, that these writers are sufficiently correct. The vital question relates here to the proper construction and interpretation of those facts. As before remarked, the principle established in the foregoing pages, the symbolism founded upon the sun's course, affords the only correct basis for the proper construction of the known facts. We know that the most prominent characteristic of the ancient religions was symbolism; and that, in all ages, the favorite language of prophecy and of divine revelation has been that of types and symbols, founded upon the most striking objects in nature. From the natural correspondence of physical light and darkness with moral light and darkness; between the sun of the material world and the source of all intellectual and moral light, nothing was more natural than to attempt to represent the moral conflict of the world, of the human race, and of the individual man, by the conception of the sun in its battle with the darkness with which night envelops the earth. No sooner was the sun assumed as a type of man, than all the other ideas followed; the solar orb experienced the same destiny allotted to mankind. The conflict of the solar hero with the prince of darkness, his violent death, and final triumph over death, typified not merely the experience of the individual man, but of the human race itself, in the great moral conflict with the prince of darkness and evil. That these symbolical ideas were ancient, and widely prevalent,

being fundamental, in fact, in nearly all the religions of antiquity, we believe has been sufficiently demonstrated. What more appropriate symbol than the sun, in its conflict with the darkness which spreads its mantle over the world—since the cosmical sun had been taken for a type of the first man—to have been connected originally with the promised seed of the woman, the expected redeemer of the world! Admit that something of a solar character did attach to the traditional first man; to the history of the temptation and fall; to the promised seed of the woman, and even to the second Adam, the Christ of the New Testament. The known facts seem to countenance the statement thus far; but the principle which has been established affords the only proper basis for the construction of those facts. We have here not solar myths and legends, but solar symbolism, a primitive revelation, if you please, whose typical import had become, in the course of ages, converted into "mythological fables," to use the expression of Sir Wilkinson. We have not the space here to consider the question of a "primitive revelation," but that the Gentile world, as well as the Hebrews, had preserved some tradition of the promised seed of the woman and of a future redeemer, is naturally to be supposed; and that the dying sun-god in the Pagan religions represented that promised seed just as much as the expected Messiah of the Hebrews, we believe to be susceptible of the clearest proof.

Again, that something of a solar character, of an astro-religious element, growing out of the original solar symbolism, is to be traced in the history of the Hebrew Patriarchs, of the twelve sons of Jacob, for instance, especially in the two dreams of Joseph and the dying address of Jacob, and so, also, in the organization of the Israelitish camp—a solar character, however, of an origin, nature and import very different from that conceived by Dupuis, Nork, Goldziher and their schools—may be very properly admitted, if we adhere to the one great principle established in this article. We conceive, in fact, that this principle underlies, to some extent, the whole course of revelation, from Genesis to the Apocalypse; but we have not the space here to treat a proposition of this kind, which would demand the utmost caution in its development.

Of the one great fact that the sun's course had been taken as a symbol of the life of man, and that this symbolism was fundamental in nearly all the religions of antiquity, there exists, in our estimation, no reasonable doubt. The importance of this principle, its actual significance and bearings, are points upon which various opinions will naturally prevail; but the entire subject is worthy of a critical investigation, as it seems to us, in the interest of the scriptures as well as of the science of religion generally.

THE MOABITE MONUMENT, ERECTED BY KING MESHA
ABOUT 800, B. C.

Contributed to the *Oriental and Biblical Journal*.

The confirmation or correction of our notions of ancient history by the discovery of monuments long unknown, and the deciphering of inscriptions long known, but unread and supposed unreadable, have been among the noteworthy events of the present century.

Especially interesting has been the discovery of monumental inscriptions having immediate relation to events recorded in the Scriptures, such as the cuneiform inscriptions and tablets found at Nineveh. But among all the recently discovered or deciphered inscriptions, it may safely be said, that not one has higher claims upon our attention and interest than that discovered about twelve years ago, upon a monument erected in the land of Moab by Mesha, King of that country, a contemporary of Jehosaphat, King of Judah and of Ahab, Ahaziah and Jehoram, Kings of Israel.

This stone was found in August, 1868, by the Rev. F. A. Klein, a missionary of the Church, Miss. Society, but a native of Prussia, and, it is said, a naturalized Frenchman, at the entrance of the ruined city of Dibon, once a capital of Moab, though built (or rebuilt) by the children of Gad, as recorded in Num., xxxii., 34.

Mr. Klein's efforts to induce the Prussian Government to take the necessary measures to secure possession of this precious monument were unsuccessful*; and the stone, or rather its fragments, were at length secured by Mr. Clermont Ganneau, interpreter and secretary of the French Consulate at Jerusalem.

When the Arabs in the vicinity of Dibon found that this stone was an object of interest to foreigners, their jealousy was excited, and in a dispute among themselves for the control of it, some of them, by heating it and then dashing cold water upon it, broke it into fragments, some of which, it is said, were carried to different places as charms to promote the fertility of the fields. Fortunately one of the fragments is large, and contains nearly half of the inscription uninjured, and another nearly a quarter. The rest of the pieces were small and some were lost. The greater portion, however, were recovered, and the monument as restored now stands in the room devoted to Jewish antiquities, in the Museum of the Louvre, in Paris, where the writer had the pleasure of inspecting it.

*From conflicting statements it is not easy to judge of the wisdom or unwisdom, fairness or unfairness of the measures taken by different parties in reference to this monument; but these personal questions are of small account compared with the interest which the Christian world must feel in the monument itself.

The monument consisted of a block of black basalt, 3 feet 8½ inches high, 2 feet 3½ inches wide, and a trifle over a foot in thickness, rounded at the top, with an inscription of thirty-four lines. It has been restored by replacing the fragments, so far as possible, and supplying the place of the lost portions with a smooth surface of stucco, on which are inscribed the letters, taken from a partial copy made by Mr. Klein, and from a paper impression or "squeeze" taken by Mr. Ganneau while the stone was yet whole.

The monument, as restored, stands upon an appropriate pedestal, having at the right upon a similar basis a glass frame containing the paper impression, and at the left another containing the partial copy, thus exhibiting at a glance the authority for the restored portions of the inscription.

Certain portions are still deficient, especially at the ends of several lines and at the bottom. These can be supplied only conjecturally.

The stone was not found as originally set. It appears to have been built into a wall, perhaps in the time of Roman supremacy, and with the crumbling of that wall to have fallen among the rubbish below, where it was found by Mr. Klein.

In II. Kings, iii., 4, Mesha, King of Moab, is mentioned as being a vassal of the King of the ten tribes of Israel, and as sending to him an annual tribute of a hundred thousand lambs and an equal number of rams, with their wool; but as throwing off the yoke on the occasion of the death of Ahab.

In various passages of Scripture, Chemosh is spoken of as the national god of the Moabites; *e. g.* in Jere., xlviii., 7, in predicting the calamities about to come upon Moab, the Prophet says: "And Chemosh shall go forth into captivity, with his priests and his princes together." Hence in an ancient poem quoted by Moses in Num., xxi., 29, Moab is designated as the people of Chemosh: "Woe to thee, oh Moab! Thou art undone, oh people of Chemosh!" And among the idols for the worship of which Solomon built high places to gratify his foreign wives, "Chemosh, the abomination of the Moabites," is mentioned, I. Kings, xi., 7; II. Kings, xxiii., 13. In Judges, xi., 4, Chemosh is spoken of as a divinity acknowledged also by the Ammonites.

The inscription carved by order of King Mesha on the monument of which we are speaking, contained repeated allusions to *Chemosh* as the recognized god of Moab, and expressly names *Jehovah* as the national God of Israel.

The principal object of this monument was to record the success of Mesha in throwing off the yoke of the Kings of Israel. This success he religiously ascribes to his god Chemosh, and speaks of devoting spoils and captives to him.

The following is the nearest approximation which I have been able to make to any exact rendering of the inscription, making free use of previously published translations. Words or parts of words conjecturally supplied are placed in brackets [], words added, in parenthesis (), do not imply omissions from the text, but are added for the sake of English idiom:

"I, Mesha, am the son of Chemosh[-gad], King of Moab, the [D]ibonite. My father reigned over Moab thirty years, and I reigned after my father, and I erected this monument to Chemosh in Korcha, a monument of deliverance, because he delivered me from all despoilers and made me to see (the destruction of) all that hated me.

"Omri was King of Israel, and many days they oppressed Moab, for Chemosh was angry with him and with his land. His son succeeded him, and he also said, I will oppress Moab.

"In my days Ch[emosh] said, but I will look to him and to his house, and Israel shall perish with everlasting destruction."*

"And Omri took possession of (the city) Medeba, and dwelt therein; [and they oppressed Moab, he and] his son forty years. In my days Chemosh [looked] upon him.

"And I built Baal-mean, and made in it a [trench] and I [besieged] Kirjathan; and the men of Gad had dwelt in [that] land from of old; and the King of Israel built up [the city] for himself; but I fought against the city and took it; and I slew all [the people that were in] the city, a sight (pleasing) to Chemosh and to Moab. And I took away [the spoil and presented it] before Chemosh in Kirjath; and I caused to dwell therein the men of Siran and the men of Shakharath [or Makharath.]

"And Chemosh said to me, Go and take Hebo [fighting] against Israel; [and I] went during the night, and fought against from the dawn of the morning until noon; and I took [the city] and slew the [men] that were in it, in all seven thousand; [but the women I slew not] for I devoted [them] to Ashtor-Chemosh; and I took thence the [ves]sels of Jehovah and offered them before Chemosh.

"And the King of Israel built up Jahar and dwelt in it, while he warred against me; and Chemosh drove him out from before [me.] I took from Moab two hundred men, all the chiefs thereof, and besieged Jahar and took it to [annex it] to Dibon.

"I built Korcha, the wall of the forest and the wall of [the fortress]; I built the gates thereof; I built the towers thereof; and I made in the midst of the city reservoirs for the mountain torrents;† and there was no cistern in the city, in Korcha; and I

*Mr. Ganneau renders this sentence, "I will go and appear to Moab and his temple. Then Israel was wasting continually."

†Dr. Crosby renders this phrase, "Prisons for the men of * * *"

said to all the people, Make you every one a cistern in his own house; and I dug the trench of Korcha with [the men] of Israel.

"I built up Aroer, and made the causeway in Arnon. I built the House of the High Place (Beth Bamoth) for it had been dem[olished]. I built Bezer, for the men of Dibon, fifty, had taken possession of it, for all Dibon was loyal. And I filled Bikran with [inhabitants]. And I built Beth Diblathan and Beth Baal-Meon, and placed M[oabites] there . . . the land . . . and Horonan dwelt in it . . . Chemosh said to me, Go fight against Horonan; and I . . . Chemosh in my days . . ."

The language of this inscription is found to be almost identical with the Hebrew of the Old Testament, with the exception of the termination *in* (instead of *im*) for the plural of masculine nouns, and of the use of ך for ם as the suffix for the third person singular, masculine, of the personal pronoun (*him* or *his*), both of which appear occasionally in Hebrew, and the contraction of one or two nouns; the language is pure Hebrew, thus confirming the impression which one naturally derives from the history of the patriarchs and of Israel, that the language spoken through all the region bordering on the eastern shore of the Mediterranean sea, by Canaanites, Phœnicians and the people of Edom, Moab, Ammon and Hamath, as well as by the Israelites, was essentially one, viz.: The Hebrew as preserved in the writings of the Old Testament.

Consequently the difficulty in making out the inscription arises not from any serious doubt as to the meaning of the words, except in one or two instances, but almost entirely from the injuries of time rendering words or letters illegible. An instance occurs in the second line, where the word which I have rendered *Dibonite* lacks the first letter D, and has therefore by some been rendered *Yabinite*, or *son of Yabin*.

The shapes of the letters are of special interest. Students of Hebrew are aware that the letters now universally used, both in the synagogue rolls and in printed editions of the Hebrew bible, are not the most ancient forms, but calligraphic modifications of them brought from Babylon and used in writing Hebrew only since the time of the Babylonish captivity. It is also acknowledged by scholars that the Samaritan alphabet exhibits a nearer approximation to the older forms of the Hebrew letters than that now used in Hebrew manuscripts or printed books.

When the Maccabean Princes coined money (shekels und fractions of shekels), in the inscriptions on their coin they reverted to the more ancient forms of the Hebrew letters; and the

letters found on those coins agree much more nearly than the common Hebrew [Chaldean] forms with those of the Moabitish inscription.

The Phœnician inscriptions hitherto discovered exhibit a variety of forms of nearly all the letters of the alphabet. Some of these forms, in the case of all the letters, are identical with those which appear in the Moabite inscription of which we are speaking.

But the most interesting point to be observed in respect to these letters is their close agreement with the most ancient forms of the Greek letters. This will appear from consulting any table—the Hebrew alphabet especially—such as compare the Hebrew alphabet with the coin letters, the Samaritan alphabet, and the Moabite inscription.

Cadmus, in introducing alphabetical writing into Greece, fifteen centuries before the Christian era, would naturally keep the forms in use in his own country, and would write from right to left. In some of the oldest Greek inscriptions the lines read from left to right and from right to left, alternately (*βουστροφηδόν*), the letters being varied in shape so as to face the direction of the line in which they occur. This was the cause of the double form of several of these letters as seen in the table.

Thus we see in this ancient inscription the prototypes of our own letters.

An interesting point is the existence of punctuation in this inscription, the words being generally separated by dots and the sentences by perpendicular lines. Although most ancient Hebrew and Greek manuscripts are destitute of any such marks, Ethiopic and Samaritan manuscripts have dots between the words, and more prominent marks at the ends of sentences.

This has been supposed by some to be the oldest *alphabetic* inscription yet discovered. Possibly some of those found at Nineveh may prove to be older. Many of the Egyptian inscriptions are older, but they consist of hieroglyphics. The date of the erection of this monument in the land of Moab is earlier than that of the birth of Homer.

The land of Moab lay east of the Dead Sea and of the lower parts of the Jordan. Dibon, Mesha's capital, as well as Medeba, Baal Meon, and other places named in this inscription, lay in the northern part of the land, while Ar, its ancient capital, lay much farther south. The northern region, comprising all the towns named as having been taken and retaken alternately by Moab and Israel, had been conquered before the days of Moses by the Amorites, and when *their* King, Sihon, was conquered by Moses, the whole region passed into the hands of

Israel, and was assigned to the tribes of Reuben and Gad. Hence the contests for the possession of these places, and the mention in the inscription of the men of Gad as having formerly dwelt in Kirjathan (Kirjathaim).

In this inscription are mentioned as cities of Moab, Dibon (Mesha's capital), Medeba, Baal Meon (called also Beth Baal Meon), Kirjathaim, Nebo, Jahaz, Aroer, Bezer, Bikran, Beth Diblathaim, Horonaim and Korcha, a place built by King Mesha. Some have thought that Ataroth is mentioned in the tenth line of the inscription, which is imperfect.

Of these Dibon, Ataroth and Aroer are mentioned in Num. xxi., 23, as having been built (i. e., rebuilt) by the children of Gad; and Kirjathaim, Nebo and Baal Meon by the children of Reuben. Jahaz is mentioned in Num. xxi., 23, as a place existing when Israel came out of Egypt, and as a battle-ground in the war with Sihon, King of the Amorites, whose capital was Heshbon, and whose dominion reached to Aroer, on the Arnon. All his cities were taken by Israel, destroyed in the contest, and then rebuilt by the Reubenites and Gadites.

In Josh. xiii., 16-19, Aroer, Medeba, Dibon, Beth Baal Meon, Jahaza (doubtless the same with Jahaz), and Kirjathaim are mentioned as cities assigned to the tribe of Reuben.

Nearly six centuries later we find Mesha in possession of Dibon, as his capital, and contending for the sovereignty over neighboring cities. Later still we find Horonaim, Aroer, Dibon, Nebo, Beth Diblathaim, Kirjathaim and Beth Meon mentioned in Isa. xv., and Jere. xlviii., as cities of Moab about to be desolated.

Thus it is evident that the region comprising these cities was a scene of repeated *border warfare*. Notice a similar contest between the Israelites under Jephthah and the Ammonites. Jud. xi.

It is evident from the manner in which these places are named in Num. xxxii., 34-38 (compare any good map of the region), that there was considerable mingling of the inheritance of the two tribes of Reuben and Gad.

Finally, the egotistical, boastful style of the inscription agrees with that of similar documents emanating from the Kings of Assyria, Persia and Egypt, and reminds the reader of the words used by the successful warrior and haughty monarch, Nebuchadnezzar, "Is not this great Babylon which I have builded?"

Of Korcha, the building of which is so particularly described by King Mesha, we have no information except what is furnished by this inscription. Perhaps it was an offshoot or fortified suburb of Dibon. The name signifies *a smooth surface*, or *ice* or *crystal*. The absence of cisterns and the necessity of providing a water supply seem to indicate that it was a new place,

and the building not a rebuilding, as in the case of Aroer, Bezer, Baal Meon, etc. If Korcha was a favorite suburb of Mesha's capital since this monument was erected in it (as stated in the first paragraph of the inscription), we can easily account for the minuteness with which its construction is described.

THE SITE OF BETHSAIDA.

BY REV. LYMAN ABBOTT.

It is the common theory of the commentators that there were two towns by the name of Bethsaida, in Galilee, in the time of Christ. One of these towns is located on the northern shore, at the entrance of the river Jordan into the sea; the other is located on the western shore, somewhere between Capernaum and Tiberias. The popular Biblical Atlases all give the two, some, however, querying the second one as an indication that its site is uncertain. Even so respectable an authority as Canon Farrar follows the popular tradition, and gives two Bethsaidas. Kitto and Smith's Dictionaries both give two Bethsaidas. The case is one which strikingly illustrates the characteristic weakness of Biblical commentators, and even archæologists, their tendency to follow tradition blindly, without original investigation, a weakness of which, unhappily, Biblical literature affords many examples on subjects of much greater importance.

It is conceded by all hands that there are no ruins of the imaginary western Bethsaida, and no other references to it in ancient history other than those to which I shall refer in a moment in the Gospels. It is also a singular fact, if it be one, that two townships of the same name, and each sufficiently important to be mentioned in Gospels like those of John and Mark for pagan readers, should coëxist within a few miles of each other, on the same lake, and that one of them should have perished so completely as to leave no trace of its existence, either in ruins or in literature, except in one, or possibly two references in Mark. (Mark vi.: 45; viii.: 22.)

Matthew, Mark, Luke and John all give accounts of the feeding of the five thousand by Christ, on the shore of the sea of Galilee. Combining these accounts, the narrative runs thus: Jesus, after the experimental preaching by the twelve, departed by ship over the sea of Galilee (John) into a desert place (Matt.), belonging to the city of Bethsaida (Luke). After feeding the multitude he sent his disciples by ship "to go to the other side unto Bethsaida" (Mark), and subsequently joined them, walking out upon the sea for that purpose. From these narratives the

geographers and commentators have jumped to the conclusion that there must have been two Bethsaidas, one to the vicinity of which Christ went for retirement *before* feeding the multitude, the other to the vicinity of which he retired *after* feeding the multitude; one on the eastern, one on the western shore. And this conclusion has absolutely nothing whatever to sustain it, except a praiseworthy desire to harmonize Gospel narratives, supposed otherwise to be inconsistent. The object is commendable; but if it is necessary to invent geography to accomplish the result most Bible readers will prefer to leave the harmony unaccomplished. In fact, however, the harmony requires no such invention.

At the mouth of the river Jordan, where it empties in the sea of Galilee, are the ruins of the one Bethsaida, the only Bethsaida known to either history or geography. It is on the northeastern shore of the sea, or at least in a northeastern direction from Capernaum. Beyond it is a plain, intervening between the Jordan and the Eastern mountains, which were then, and are now, a comparatively uninhabited region—a pasture land, whither Christ retreated with his disciples. The multitude learning, or surmising the place of his retreat, followed him thither. It was about the time of the Passover, and the throng was very great. He taught them all day; as sunset approached he fed them; then, when they would have made him king, escaped from their offensive, because unspiritual and unappreciative homage, bidding his disciples row eastward, *unto* the other side (*εἰς τὸ πέραν*) *in the direction of* Bethsaida (*πρὸς βηθσαιδάρ*). Then he proposed to join them, after a short period of retirement in prayer, in the hill country. They started for Bethsaida; a mile or two, perhaps, west of the plain of Butaiha, where the multitude had been fed. But suddenly one of those fierce, north winds, which draw down the valley of the Jordan, as down a gigantic funnel, arose, sweeping down upon the lake with great fury, from the snow-capped peaks of Lebanon and the anti-Lebanon, and drove them far out into the lake. They turned about and headed for the shore, for the meeting place at the mouth of the Jordan, appointed by their Lord; and it was while they were thus toiling to come to Him, against wind and wave, that He came forth out of the darkness and storm to meet them; a fact which conveys its own spiritual lesson, which I need not dwell upon here.

There is but one Bethsaida; that known on our maps as Bethsaida Julius; the other exists only in the imagination of commentators and map-makers.

INFLUENCE OF THE ARYANS UPON THE ABORIGINAL
SPEECH OF INDIA.

BY PROF. JOHN AVERY.

So far as we are aware, three theories have been proposed regarding the origin of the Dravidian alphabets. The first, proposed by Mr. Ellis, is that the Tamils were already acquainted with the art of writing before the coming of the Brahmans, and that the latter worked over this alphabet, adding a few characters and adapting it to express Sanskrit sounds. The result was the ancient Grantha, from which was later developed the modern Tamil alphabet and, as we suppose, the other alphabets of the family. We do not understand whether Mr. Ellis regarded the primitive Tamil characters as a native invention or as derived from some other people. A modification of this theory, suggested by Mr. Edward Thomas, is that the earliest Sanskrit characters, those found in the Asoka inscriptions, were derived from the Dravidians, and that they were supplemented by signs to express sounds not heard among the latter. A second theory, advocated by Dr. Burnell, is that the alphabets of the South Indian languages were brought from Phœnicia by traders sailing from the Red Sea to the Malabar this change appears not only in words derived from the Sanskrit but has been extended to pure Dravidian words, and that it prevails most in the modern language, while in the ancient language the *p* was generally retained. Since *h* is a favorite letter in the norther vernaculars, commonly taking the place of the aspirates of the five *vargas*; and since the Marathi, the Aryan neighbor of the Canarese on the north, sometimes changes *p* into *h*, it seems probable that this change first came in with Sanskrit, words, and thus gradually acquired a secure lodgment in the language. Dr. Pope, who regards the Dravidian languages as belonging to the Aryan family, in a communication to the Indian Antiquary for May, 1876, refers to this change of *p* to *h* as evidence of that relationship. He affirms his belief that *p* in these cases stands for *ph*, and that an identical Aryan root can always be found for all such roots beginning with *p*. He evidently does not agree with Dr. Caldwell in regard to the modern character of the change. His further statement that all the primitive roots of the Dravidian tongues are Aryan will hardly meet the general approval of scholars. Another example of Sanskrit influence is the occasional combination of a nasal and a surd in the middle of a word. This is never allowed in the Tamil, which is the most original of the Dravidian idioms, but either a sonant takes the place of the surd or the concurrence of the letters is prevented by the insertion of a vowel.

There is a considerable number of coincidences between the Dravidian tongues and the Sanskrit, which at first sight might be regarded as examples of borrowing from one side or the other, but which are better explained as independent developments within each family, or as pointing back to a remote antiquity, when both families had not yet separated from a common stock. Some of these coincidences have a wide range, extending beyond the Sanskrit to other members of the Indo-European family, or outside these limits to other apparently unrelated families. An example is the use of a nasal to separate concurrent vowels, or for some other euphonic purpose. The letters commonly employed in the Dravidian languages to prevent hiatus are *v* and *y*, but the Telugre uses *y* and *n*, or sometimes *on*; *y* is employed when the use of the nasal would occasion ambiguity. The Telugre uses a nasal not only to separate bases and endings, as does the Sanskrit, but also to divide the final and initial vowels of concurrent words, in which respect it resembles the Greek. In Tamil, *v* and *y* are more commonly used, but there are many cases where *n* appears, particularly in the classical dialect. In general we may say that the use of a nasal to prevent hiatus is much more varied in the Dravidian languages than in the Sanskrit, and cannot have been coast, and that from the south they made their way into Northern India. A third theory, and the generally received one, is that the characters used by Asoka, and belonging first to the Aryans, were carried along with northern culture into the south, where they became greatly modified by the exigencies of time and place. Their prevailing circular shapes is explained by Mr. Beames as due to the practice of writing with an iron style upon the leaf of the palm, the longitudinal fibers of which would be liable to split in drawing the straight lines of the *Deva-Nāgarī*. The earliest specimens of Dravidian alphabets are found in copper-plate inscriptions containing royal grants of land. Dr. Burnell gives a specimen of the ancient Tamil alphabet in the *Indian Antiquary* for August, 1872, from plates in the possession of the Jews and Syrians of Cochin. The date, according to astronomical calculations, is 774 A. D. This alphabet is peculiar in having only one sign for both the short and long sounds of *e* and *o*. Still earlier inscriptions than these exist, the oldest dating 247 A. D. Dr. Caldwell, who has examined the characters of these, says that they resemble those in use at the same period in Northern India, and are unlike those found in the Jewish and Syrian inscriptions. Two strong, though not entirely conclusive, arguments for the Aryan origin of the Dravidian letters are: First, the earliest forms of these alphabets which we possess seem to be framed to express Sanskrit rather

than Dravidian sounds; second, to assume that the Aryans borrowed their system of writing from the Dravidians, would be to reverse the direction in which Indian culture has in other respects uniformly flowed. It is hardly likely that the Aryans, whose civilization was older by many centuries, would have to resort to their under neighbors for the art of writing. At the same time, it is probable that the Sanskrit alphabet was derived from a Phœnician or Egyptian source, since Northern India in early times had communication with the western world over the Iranian plateau, as well as by the Indian ocean and the Indus river. In the phonetic laws of the Dravidian languages we detect some cases of imitation of the Sanskrit, and also some deeper resemblances to the Indo-European speech which seem to lead us back to the time when the two families were one. Of the first sort is the adoption of many of the laws regarding the assimilation of concurrent consonants, which play so important a part in Sanskrit grammar. In many cases, however, these rules are not followed, but euphony is secured by changes which are strictly Dravidian. The habit of changing an initial *p* to *h*, which prevails in the Canarese, is another example. This substitution is the more remarkable, as the Dravidian languages have a decided aversion to aspirates. Dr. Caldwell says that imitated from the latter. Another Indo-European analogy is the insertion of a nasal before the final dental of certain verbal roots in Tamil. With this we compare *bhunj* for *bhuj* and *yunj* for *yuj* in Sanskrit; *μανθ* for *μαθ*, *λαμβ* for *λαβ* in Greek; *scind* for *scid*, and *tund* for *tud* in Latin.

Dr. Caldwell points out in regard to this nasalization that, while it appears to be simply euphonic in the Indo-European family, it also assists in differentiating meanings in the Dravidian languages; thus, neuter verbs containing such an *n* lose the *n*, and double the final consonant in becoming transitive. Other coincidences of a similar character will be referred to hereafter.

In the matter of gender the South-Indian languages differ decidedly from the Sanskrit, and from the Indo-European family in general. Dravidian nouns are divided into two classes: First, those denoting rational beings are masculine or feminine; second, all others are neuter. The Indo-Europeans, on the other hand, assigned one or another gender to all objects, according to real or imagined sexual qualities. In consequence of this fundamental discordance in the use of gender, words derived from the Sanskrit must in many cases change their gender; thus masculine, denoting irrational beings, generally become neuter, or form an exception to the general rules. Examples of both occur, and it seems to depend upon how completely a Sanskrit word had become naturalized, whether it was treated in one way

or the other. In the former case considerable change in form accompanied, or rather preceded, the change in gender. Not infrequently the same word appears in two forms and genders. The neuter word is generally considered more classical, though the learned sometimes choose to follow Sanskrit usage.

When we come to the subject of word-formation we find an instructive illustration of the tenacity with which a people will, even under adverse circumstances, cling to its ancestral traditions in regard to the form in which it shall put the linguistic material which it has occasion to use. Though the adoption of Aryan religion and philosophy, and Aryan institutions in general, brought in a host of foreign roots and words, the grammatical structure of the northern idioms never flourished upon Dravidian soil. It is in the arrangement and nomenclature of the several parts that we discern Aryan influence, for it was in the north that grammatical studies approached nearest to scientific method. The Dravidian grammarians have followed the Sanskrit in assigning eight cases to their nouns, though, as Dr. Caldwell has shown, such is the looseness of connection between the postpositions, which serve as signs of relation, and the base, that the number of cases admits of great increase. It is not necessary here to go into the details of Dravidian declension, but it is sufficient to repeat what we have already had occasion to say, that these languages belong to the agglutinative class; and, though we may consider them as exhibiting, in a rudimentary form, the same principle of structure as the inflecting languages, and may even find instances of true inflection, there is yet such a wide and essential difference between them that any considerable borrowing from Sanskrit is out of the question. A true example of borrowing, probably, is the feminine suffix *i*, which is most used with Sanskrit derivatives. It has, however, suffered a change in quantity, being always long in Sanskrit and short in the Dravidian languages. The genitive suffix *yokka*, or *yoka*, is possibly derived from the Aryan possessive suffix *ka*. There are here also a few coincidences of the sort already described, pointing to a possible ancient unity of the two groups of languages: First, the neuter singular suffix *d*, which appears in the remote and proximate demonstrations *adi* and *idi* of the Telugu, the *adu* and *idu* of the Tamil, Malayâlan and Canarese, may be compared with the same suffix in the Sanskrit *tat* and the Latin *id* and *illud*; Second, the neuter plural of Dravidian nouns is generally formed by the suffix *gal* or a kindred form, but nearly all the members of this family also form a neuter plural in short *a*. This suffix is strictly confined to the neuter, while *gal* is occasionally used with the genders. We may compare with this the neuter plural in short *a* of the Zend,

Greek, Latin, and Gothic. What we have said about Dravidian declension is also true of conjugation. As examples of borrowing we may cite: First, the occasional mode of forming the causative verb, which is generally produced by the help of a causative particle, but sometimes—particularly in connection with Sanskrit derivations—an auxiliary verb signifying “to make” is annexed; Second, we may also compare the *v* which is the sign of future time in Tamil, Canarese, and Tulu with the *v*—pronounced *b*—of several of the northern vernaculars. It has been suggested that this is allied with the *bo* of the Latin future, which, if true, would make it one of the ancient correspondence already alluded to.

When we come to the third particular in which one language can influence another—its vocabulary—we find that the Dravidian languages are greatly indebted to the Sanskrit. It could hardly be otherwise, after the acceptance of northern learning and literature. The aboriginal tribes had words to express objects of sense, but were nearly destitute of expressions for immaterial things, which were supplied by the Sanskrit abundantly. But, as we have seen, the Dravidians, generally, preferred to work over this new material into a shape agreeing with their own habits of articulation and expression. It is doubtless the frequency with which words of Sanskrit origin are met in the idioms of Southern India which has misled some scholars into supposing that the latter should be assigned a place in the Aryan family. When, however, we come to examine the matter more closely, it appears that genuine Dravidian words are largely in the majority in all the dialects, and that some of them could dispense with their foreign element and yet express the thoughts of an advanced civilization. As we were obliged to admit in regard to the northern vernaculars, it is impossible to estimate, exactly, the proportion of words of Aryan origin. It varies, considerably, in the different languages, according as Brahmanic influence has been powerful, or the people more receptive. Dr. Caldwell, who is more competent to speak on this point than any other living scholar, says that the Tamil and Malayâlam, though closely akin and adjacent dialects, represent the extremes in this respect, the former having fewest and the latter the most Sanskrit derivations. The earliest Malayâlam literature which we possess is quite purely Dravidian, and it is only within a few centuries that the language has become Brahmanized. According to the same authority the order in which the cultivated members of this group would stand in regard to the use of Sanskrit derivations would be: Malayâlam, Canarese, Telugu, Tamil. Perhaps the remoteness of the Tamil country from the Aryan territory may account, in part, for the greater originality of the

language. The amount of Sanskrit in any of the languages varies in different periods and in different styles of literature, being least in the earliest period and most in the later period of the religious and grammatical literature. The Shen-Tamil, or the classical dialect, contains few Sanskrit words. The same is true of the speech of the rudest part of the population at the present time, though, in general, the modern prose language is largely indebted to Sanskrit. The Aryan words in Tamil may be divided into three classes, according to the period of their introduction and the change of form which they have suffered: First, there are the words which were brought in by the early Brahmanic colonists, and which were, doubtless, taken directly from the Sanskrit. These have been so altered in shape as to be almost past recognition; Second, the largest part of the Sanskrit words was introduced by the Jainas, who flourished from the ninth to the thirteenth centuries. These words are altered to accord with Tamil rules, and are said, by native grammarians to have been taken from the northern Prâkrits, and not from the Sanskrit directly; Third, the latest portion was introduced from the eleventh to the sixteenth centuries by the three schools of religious philosophy which prevail among the Tamils. These words are in form still nearly pure Sanskrit. Using the nomenclature of Hindu grammar we should call the derivatives of the first two classes early and late *tadbhavas*, "of the nature of;" and those of the last period *tatsamas*, "the same as." In the Telugu, which stands next above the Tamil in its indebtedness to Sanskrit, Mr. F. W. Ellis states that the *tatsama* words number about three-twentieths of the language, and the *tadbhava* words five-twentieths, making a total of eight-twentieths or two-fifths. The oldest extant Telugu grammar was written in Sanskrit by a Brahman, who is supposed to have lived about the beginning of the twelfth century. From this period, probably, dates the introduction of Sanskrit words into the language. In the Tamil the best literary productions are purely native, while, among the Telugus little has been produced except by Brahmans, hence their greater indebtedness to the Sanskrit. What we have said of the Telugu is nearly true of the Canarese. The oldest grammar of this language was written by Késava, a Jaina, who is supposed to have lived near the end of the twelfth century. In his time even, Sanskrit words, both *tatsama* and *tadbhava*, were said to be numerous in the language. The literature of the Malayâlam, with the exception of a single poem and a few inscriptions on stone, has been produced within two or three centuries, and consists almost exclusively of translations or imitations of Sanskrit works; hence, it is overrun with Sanskrit derivations. We are unable to state the exact proportion

which they bear to pure Dravidian words. If we inquire in regard to the sort of words which have been borrowed from the Sanskrit, we find that they stand to native Dravidian words much in the same relation as Latin words to the Anglo Saxon in English. The relation in Telugu is very clearly expressed by Dr. Campbell. He says: "All words denoting the different parts of the human frame, the various sorts of food or utensils in common use among the natives, the several parts of their dress, the compartments of their dwellings, the degrees of affinity and consanguinity peculiar to them; in short, all terms expressive of primitive ideas or of things necessarily named in the earlier stages of society belong to the pure Telugu or "language of the land." The great body of Sanskrit words admitted into the language consists of abstract terms, and of words connected with science, religion or law. These remarks, in regard to the Telugu, are true in nearly the same degree of all the principal languages of this group. And we may add that the numerals and pronouns, those most persistent and characteristic parts of speech, are, with hardly an exception, of native origin. The Telugu sometimes uses *êka*, the Sanskrit numeral for one, in place of its own *oka*. The Tamil sometimes uses in compounds *atta*, derived from the Sanskrit *ashtan*, "eight," instead of the regular *ettu*. Some scholars have also sought to connect the Dravidian *añju*, "five," and *padî*, "ten," with the Sanskrit *panchan* and *pankti*, "a series of fives." The word for a thousand, in all the languages but Telugu, is already of Sanskrit origin; the Telugu word is as truly Dravidian. Among the pronouns there is nothing which we can, confidently, regard as borrowed from the Aryans. The correspondence which are occasionally met with, probably belong to that class of forms which may be illustrated from so many different languages, and which belong to the most primitive utterances of mankind.

If, now, we sum up the results of our inquiries into the influence of the Aryan upon the aboriginal languages of India, we find: First, that the primitive people, whose land was occupied by the Aryans, gradually gave up their ancestral tongue, and adopted the language of their conquerors, introducing into it, however, some of the peculiarities of their own speech; Second, that the wild tribes of the hills, so far as they have maintained their political and social independence, have also preserved their linguistic traditions nearly unimpaired, borrowing neither the Aryan grammar nor much of the Aryan vocabulary; Third, that the cultivated languages of the southern peninsula have been greatly enriched from the Sanskrit, directly or indirectly; but this has been chiefly in a contribution from the abundant stores of the latter to their different stock of words,

and not in the reconstruction of their grammar. In this respect they have, surprisingly, maintained their independence, notwithstanding the tremendous presence of Aryan influence operating through more than twenty centuries.

We may add, in conclusion, that the facts adduced in this, and in the former paper, regarding the stability of what is most essential in speech, afford a good illustration of the value of the evidence from language in deciding questions of race.

CORRESPONDENCE.

OF THE DAKOTA LANGUAGE.

To the Editor of the American Antiquarian:

So far as I know all Indian dialects are primitive in the collocation of words in a sentence; that is, they follow the *natural* or *thought form*. Thus the Dakota says, "Bread me give," instead of "Give me bread." From this it will appear that the place of the noun, whether subject or object, is *before* the verb. The adverb comes *before* the verb it modifies, and the place of the adjective and article is *after* the noun. Thus, John wowapi wan tanyan yushtan, *John book a well finished*.

The Dakota noun is not varied, except to indicate *possession*. This is done by means of pronominal agglutinated particles. In words expressing human relationships, as father, mother, brother, etc., the pronoun particle is *suffixed* for the third person and *affixed* for the first and second, as in "soonka," a younger brother; "*me*-soonka," my younger brother; "*ne*-soonka," thy younger brother; and "soonka-koo," his younger brother. In property that can be alienated the possession is indicated by prefixing "meta," "neta" and "ta," respectively, to the noun possessed, as "meta-shoonkay," my dog; "neta-shoonkay," thy dog; "ta-shoonkay," his dog. These are fragments of the separate pronouns which indicate possession or property.

For a full illustration of the synthetic and agglutinative character of the Sioux language we come to the Dakota verb. This is varied by means of adverbial, pronominal and prepositional particles, which are prefixed and infix and suffixed. The adverbial particles are used with root forms to make active verbs, expressing the manner and instrument of the action, and often the relation of the actor to the thing acted upon. The common prefixes of this kind are "ba," "bo," "ka," "na," "pa," "ya" and "yu." The pronoun particles, or, as we have called them, inseparable pronouns, indicate the different persons acting and acted upon, and also the number. These are sometimes prefixed, but more frequently infix. There is a set of double pronominal particles which represent I-you and the reflexives, I to

myself, you to yourself, etc. The prepositional particles represent *to* and *for* and *together*. They follow the same law as to place which governs the pronominals. Sometimes the prepositions change the form of the pronouns. Thus with the common forms, added to the frequentive, reflexive, possessive, dative and absolute forms, we have a full paradigm of nearly five hundred words, which it would be impossible to illustrate in this paper. I may, however, add, as explanatory of the adverbial particles prefixed, that "ba" denotes the action as done with a knife or saw, as "ba-ksa," to cut off with a knife; "bo" signifies that the separation is made by punching or shooting; "ka-ksa" is to cut off with an axe or by striking; "na-ksa," to break off with the foot; "pa-ksa," to break off with the hand; "ya-ksa," to bite off; and "yu-ksa," to break off generally. If the thing acted upon is my own, that may be indicated in each of these forms by a possessive particle agglutinated, as for example, "hda-ksa" is the possessive of both "ka-ksa" and "ya-ksa." This, it is believed, will sufficiently show the character and powers of Dakota verbs, and also the possibilities of the language.

BELOTT, Wis., March, 1881.

S. L. RIGGS.

FRENCH FOOTPRINTS IN NORTHWESTERN WISCONSIN.

To the Editor of the American Antiquarian:

It is well known that the French early penetrated into the territory which is now Wisconsin. From that quarter came the best beaver brought down by Indians to Canadian trading posts, and it was natural for traders to fix themselves as near as possible to the sources of that fur which they coveted most. With this view some of them appear to have traversed the region between Lake Michigan and the Mississippi before the year 1660. The same district was almost as long ago the scene of missionary labor. Missions were tried around Quebec, but soon given up in despair, owing to the nomadic habits of the aborigines there. They were at once transferred to Lake Simcoe, a little east of Lake Huron, when it was ascertained that the tribes there were, during much of the year, sedentary in permanent dwellings. One Father was already in that recess of the West in 1615, five years before the Plymouth pilgrims landed, and the mission thrived till 1649, when it was broken up by the Iroquois, who burned up all its buildings, slaying or scattering priests and converts.

The fugitives in great part fled to Mackinaw, and some of them into Lake Superior and towards its western extremity, settling at La Pointe and the Apostle Islands. But shepherds

follow their sheep, and so the Jesuits did not forget their converts. They were soon upon their track and thus entered Wisconsin from the north.

There is reason to think that French *fun-lovers* were on Wisconsin soil as early as any fur-traders or ghostly fathers. Even in the second year after Champlain founded Quebec, one of this class, actuated by pure love of frolic and adventure, went home with Indians from the heart of the continent and wandered with them a year where no white man's foot had ever trod.

I am now reminded of the first French pioneers in Wisconsin by having just visited an *earthwork* which may by possibility have been one of their footprints. The remains to which I refer are in Barron county, about one mile southeast of the village of Rice Lake, in township 35, range 11 west, and section 27. They were visited by me on the 7th of October, 1880.

I found a ditch about a foot wide and a little less in depth, inclosing a square plot of ground fifty feet square. At two diagonal corners, namely, southwest and northeast, there are projections, indicating the sites of two flanking turrets. Near two sides of the inclosure are small heaps of stones, which may mark the spots where fires were made. Digging in the ground at various points we discovered that it was underlaid everywhere with charcoal dust at a depth of about three inches. Near the fireplaces we turned up a great quantity of bones. It seemed clear that a palisade had stood in the ditch. A resident of the neighborhood, Mr. James Bracklin, told me that he had once dug up one of the poles or stakes, which was sharpened at the lower end, and that plainly with a white man's axe.

This stockade stands on an eminence with an outlook on Rice lake and a lakelet. The locality is called Pocayamah, a Chipewewa word said to signify *confluence*. There is some underbush on the site, but no tall trees are near.

On the saddle or isthmus, between the lake and lakelet, there is a grading or roadway which was as it now is when the oldest inhabitants came into the region. This embankment is about six hundred feet in length, its width thirty feet at the base and fifteen at the summit, its height from six to seven feet.

Regarding the causeway I have no opinion, but I am inclined to think the fortification of French origin. Indian works were irregular; this forms an exact square. They had no flankers, as may be seen in pictures of them drawn by Champlain; but here nothing is plainer than the provision for a flanking fire. Indian defenses were always larger than this, being intended to protect whole tribes; this, like many Hudson Bay posts to-day, is so small that it could shelter only one or two dwellings. My hope is to procure another stump from the palisade with axe

marks. At the time of my visit the digging was all done with a broken axe-helve.

The antique remains I have described stand in a section where beaver dams are still common, and beavers themselves are trapped every year. They would form a convenient midway station for voyageurs who, like Nicolas Perrot, more than two centuries ago, were often passing from the great lake to the great river, and from the great river to the great lake.

Early settlers in Barron county—where the first white child was born twenty-five years ago—heard from the oldest Indians that the post of which I have given some account was long occupied by a French fur trader named August Corot, who was killed there by the Sioux well nigh a century ago. So much credit was given to these stories by many whites that they have dugged into the earth in several neighboring places, as sanguine of unhoarding the buried cash of the murdered Frenchman as any Yankee has been of excavating the strong box in which Captain Kidd buried his treasure along Long Island Sound.

Some three years ago I visited La Salle's Castle, Starved Rock or the Rock of St. Louis, on the Illinois river. My passage thither from Ottawa, like La Salle's, was in a row boat. After climbing the cliff we discovered on the plateau to the rear of it clear signs of a stockade similar to that of which I have spoken in northern Wisconsin. Here the French, under La Salle and his lieutenant, the Italian Tonty, were established for more than thirty years onward from 1682.

J. D. BUTLER.

MADISON, October, 1880.

ORIENTAL NOTES.

THE FRONTISPIECE for this number represents the Jews' Wailing Place. The old walls of the original temple are here seen, and it is said that they are worn smooth in places by the kisses of the Jewish pilgrims who meet and lament over the loss of their loved city. The arch of the ancient bridge across the Tyropean valley can here also be seen. The wall and the bridge bear the peculiar marks of the ancient mode of dressing stone.

AN EGYPTIAN TABLET.—A paper was read before the Society of Biblical Archaeology, February 1st, by Dr. Samuel Birch, on a tablet belonging to the period of Amnemesne III., of the 18th Dynasty, now in the British Museum. Sepulchral tablets were used by the ancient Egyptians with the object to record a certain prayer or formula for the dead, which their inscriptions occasionally invite the passer-by to recite to certain deities. The present tablet is for two architects, called in the inscription superintendents of works.

FOLK LORE.—A paper was read by Mr. Alfred Nutt before the Folk Lore Society on the "Aryan Expulsion and Return Formula." Referring to a widely-spread story, the best examples of which are Romulus, Theseus and Cyrus, whose mythical adventures have been taken to be historical, the author showed that the Celtic races had preserved the formula with greater freshness of incident than any other Aryan race.

At the Numismatic Society, Jan. 20, Mr. J. Evans exhibited two silver statues of Aradus, in Phœnicia, and Mr. A. Grant a number of gold, silver and copper coins belonging to the times of Alexander the Great, of Antiochus I. and of Seleucus Nicator. A superb coin of Seleucus I. contained, Obv., head of one of the Dioscuri, and Rev., fore part of Bucephalus, a type altogether new and unique.

THE Louvre has lately received several species of ancient art, among them a seated statue of Pallas three-fourths the size of nature, a fragment of a fine head of Apollo and many monuments of ancient Oriental civilization. Among the latter are some terra cotta tablets with cuneiform inscriptions of the Greek Cypriote character.

FOUR interesting statuettes, found in the last excavations at Pompeii, have been added to the Naples Museum. One is a magnificent work representing a cupid holding a dolphin. It was used as a fountain; another represents the Goddess of Abundance having in her right hand a silver plate and in her left a cornucopia. Both are very artistic in their attitudes and finish.

THE THRONE OF PELOPS and other localities bearing the name of Tantalos or of other members of this unfortunate Asiatic dynasty, are casually mentioned by the geographer Pausanias (II, 22; V, 13; VIII, 17); and from his indications modern travelers have sought to identify these localities on and around the mountain ridge of Sipylus, Asia Minor. The German *Engineers' and Architects' Weekly* claims that recently (in 1880) Dr. Karl Humann has discovered and identified the so-called "Tomb of Tantalos," the "Lake of Tantalos" and the "Throne of Pelops" on the eastern side of Sipylus, in a stony, rugged tract, destitute of all vegetation. The remains of a city, which had been deserted long before the Homeric age, were found by him to consist of a series of dwellings cut into the rock.

THE Syrian Church of Malabar has long been a subject of interest and speculation among scholars on account of its great age, its isolation far from the parent church and the traditions

which connect its founding with the apostle Thomas. Its history has a bearing upon the still obscure question of the religious and literary relations of western Asia and India in the first centuries of our era. The opinions of the most eminent scholars have generally been adverse to the Thomas theory, but recently Dr. W. Germann has written a work of 792 pages, entitled *Die Kirche der Thomaschristen*, in which he has thoroughly traversed the ground anew, not only gathering from the Syrian and other sources all the evidence relating to the founding of the church, but continuing its history down to the present time. His conclusion is that the apostle was in India about the year 52. Those who read German will find no better discussion of the whole subject than in Dr. Germann's book.

We are coming, year by year, to know more exactly about the aboriginal tribes which are scattered over the hill tracts of India as the officers of the English civil service succeed in penetrating the jungles where they have taken refuge. We owe much to the zeal and ability of these men, for it requires no little patience and skill to deal successfully with many of these tribes, who have learned by experience to dread the intrusion of foreigners, and are uncommunicative or untruthful concerning their beliefs and practices. Scholarship in this field has met with a severe loss in the untimely death of Mr. G. H. Damant. Though little more than thirty years of age, his administrative ability and literary tastes had given promise of a distinguished future. In 1869 he joined the civil service in India, and after filling several subordinate positions with great fidelity, was promoted, in 1878, to be political officer and then deputy commissioner in charge of the Naga Hills. The Nagas are a savage and troublesome tribe living in southern Assam, and have murdered more than one British officer. In a little more than a year Mr. Damant also fell a victim to their treachery. Before his death he had, in the intervals of official labor, devoted himself with great enthusiasm to acquiring the dialects spoken in the hills and to collecting folk-lore from the mouths of the people. These studies had begun to bear fruit in contributions to the journals of the Bengal Asiatic Society, the Royal Asiatic Society and the Indian Antiquary. At the time of his death he had prepared a Manipuri dictionary, but most of the manuscript was destroyed by the natives.

If the Aryans made their way into India across the mountain ranges skirting the northwestern border, it was to be expected that fragments of the race would be found settled along the track of the migration, which, owing to their isolated position, would retain much of the original family likeness. Such has proved to be the fact. The most interesting of these tribes is

the Dards, who occupy the country north of Cashmere. These were described a few years since by Dr. Leitner, in his *Dardistan*, and by Mr. Drew, in his *Northern Barrier of India*. More recently Dr. Bellew has examined some natives from the unexplored district southwest of Dardistan, and finds them to be unmistakably Aryans and resembling closely the Dards in physique and language. The latter is not a descendant of the Sanskrit, but seems to be an earlier offshoot of the family tree. On the northern mountain slopes it betrays an affinity with Iranian speech, while farther south some words are said to resemble Greek and Latin. Major Biddulph, who has resided many years among the tribes of this region, has prepared a report of their languages and customs, which is awaited with much interest, and may aid in the settlement of important ethnological questions.

Sir Salas Jung, the enlightened premier of the Nizam, has made an important contribution to the history of the Moham-medan rule in India, by furnishing to the government a list of 224 historical manuscripts now at Haidarabad, of which transcripts may be taken for the continuation of Sir H. M. Elliot's *Historians of India*. There is, doubtless, much other material hidden away in private libraries throughout the Native States which would throw much light upon this interesting period of Indian history.

The government of Bombay has recently had the good fortune to obtain, by purchase, some palm-leaf manuscripts written between the twelfth and fourteenth centuries. Those who know how difficult it is to preserve manuscripts in India will observe that these are very ancient.

Dr. Bühler, who has been engaged for some time in searching old libraries for manuscripts, reports great success for 1879-80. The recent famine and pestilence in western India has made the purchase of manuscripts more easy, and many rare ones have been procured, including 159 of Vedic literature.

LINGUISTIC NOTES.

EDITED BY ALB. S. GATSCHET, WASHINGTON, D. C.

WANDÓT.—The name of the tribe of Huron Indians is commonly pronounced Weyandot or Wëndat. The correct pronunciation, as we are informed by an old member of the tribe, is Wandót or Wendót; its signification, however, is not known with accuracy. Irumé wandót is a Huron man; wandót hamändá the Huron language. The central position between the western Algonkins and Iroquois, which the Wandót occupied at the time of their independence, brought them in connection with many

tribes and settlements of Indians, to which they gave appellations in their language. These proper names generally depict some striking peculiarity of the tribe and are, therefore, to us of great historic interest. Thus the Wandót called the Tus-kéróra "those isolating themselves," from taskáho: disposed to be among themselves; not associating with others. The French called the Mohawks after their totem, the *bear* (aniéye): *Les Agniers*; and so did the Wandót, Hatiniéye-runu: "they are the Bear-People," hati being a plural prefix and runu *people, men*. The Senecas were named by them Hutinuxshiniúndi, "they build a leaning house" (yenúxshe *house*), in contradistinction to others who erected houses with perpendicular walls or bark-lodges. The Cherokees were named by them Uwatayó-runu, "people inhabiting caves," from uwátayo, hole, opening in the ground, cave, some Wandóts having found them living in the caves of the Alleghany mountain ridge. They apply the same term to the State of Arkansas, which they call Uwatayó'nde, "full of caves." Like the southern Algonkin tribes they call the Monongahela river: "banks caving in"; in their language, Eta-atarānsh, from utayatárahā, "they caved in." The name of the State of Ohio and the Ohio river, Uhišhú, is interpreted by "large forest," iŝhu being a suffix which points to superiority in size or extent, the initial syllable uh, u'h representing the word i-áhi, yáhi, *standing tree*. The Miami Indians are called by the Wandót Sānshkiá-a, "dressing themselves nicely, fantastically."

EARLY CREEK HISTORY.—On July 18, 1878, the Hon. William P. Ross delivered a speech on this subject, at the Tullahassee Manual Labor Boarding School, in the Indian Territory, which has since been translated by Mrs. A. E. W. Robertson and N. B. Sullivan into Creek, and can be ordered at the office of the *Indian Journal*, at Tullahassee. Extending over four octavo pages, the Creek translation before us begins with the earliest known facts concerning the Gulf States, as the naval expedition of Ponce de Leon, and winds up with an account of the present state of the tribe. Much attention is paid to the historical relations of the Creeks with the Choctaws.

THE PÁEZ LANGUAGE is spoken by the Páeces or Páos Indians in the Colombian State of Cauca, near the western coast of South America, between the 2° and 3° of northern latitude. At the present time this people live on the eastern side of the central cordillera of that State, at the foot of the Huila mountain, and a few families are also found on the western slope near Pitayó. Before Uricoechea had published the Páez-Spanish vocabulary and some religious tracts composed by Rev. E. del Castillo y

Orosco (Paris, 1877), this language was almost entirely unknown to science, as are the majority of the Colombian languages. The verb is inflected almost exclusively by temporal and modal particles, and by the verb *ôp*, *to be*, not by grammatic forms. Person is indicated by a double form; first by the personal pronoun prefixed and standing separate, then by a personal suffix appended to the particle. The personal pronoun is also the possessive pronoun and has two genders. A passive voice is formed by the suffix *quith*, *quiti*. A sort of plural in nouns is formed by *guexs*: *piz*, *man*, *pizguexs*, *men*, literally, "crowd of man," *guei*, meaning *many*, *much*. A location suffix is *-te*: *quigue* *land* *quiguete* *in a land*. The language lacks the sound *r*, but possesses *f*, *th* and some sounds difficult to articulate. It seems to have adopted some terms from the Kechua of Ecuador, Perú, etc., and the Paniquita language is evidently a dialect of Páez; cf. "Revue de Linguistique," Tom. XII. (1879), No. 3, pg. 267-271.

THOTHMES.—The obelisk recently erected in the Central Park, New York city, owes its origin, as the inscription tablet suggests, to King Thothmes the Third. This name is composed of *Thoth*, the name of a deity, and *mes*, which means son: *Son of Thoth*. Ebers and other modern Egyptologists have substituted the orthography *Thoth*, which had been adopted from the Greek *Θαυθ*, for the correct one of *Tehuti*, and the king's name should therefore be written *Tehutimes*. Le Page Renouf, on the Origin of Religion, pg. 120, gives the following linguistic particulars on this name: "Tehuti is the Egyptian *Hermes*, and the name of *Hermes Trismegistos* is translated from the corresponding Egyptian epithet which is often added to the name *Tehuti*. He represents the moon, which he wears upon his head, either as crescent or as full disk. . . . There is no such known Egyptian word as *tehu*, but there is *texu*, which is a dialectic variety, and is actually used as a name of the god. This form supplies us with the reason why the god is represented as an ibis. As *Seb* is the name both of a goose and of the earth-god, so is *Texu* the name of an ibis and of the moon-god. *Tehuti* probably signifies, as M. Naville has suggested, the 'ibis-headed.' But it means something besides. *Texu* is the name of the instrument which corresponds to the needle of the balance for measuring weights, the ancient Egyptian cubit of *Texu*. He is called the 'measurer of this earth.' He is said to have 'calculated the heavens and counted the stars,' to have 'calculated the earth and counted the things which are in it.' He is the 'distributor of time,' the inventor of letters and learning (particularly of geometry), and of the fine arts. Whatever is without him is as though it were not. All this because the moon is the measurer."

THE first number of the Dictionary of the GERMAN DIALECTS of SWITZERLAND has made its appearance, and the fullness of material, the sound criticism, and the infinity of the details are equally creditable to the editors and to their numerous contributors from all cantons of the Alpine republic. The publisher, Jaques Huber, in Frauenfeld, intends to publish about three numbers each year, and expects to see the whole dictionary in the hands of the public in five years from now. It is published in quarto, under the title "Schweizerisches Idiotikon."

PROF. GEO. VON DER GABELENTZ, who occupies the chair for the languages and literatures of eastern Asia, has published a lucid account on the present knowledge of the Chinese and Japanese languages and literatures in Europe in "Unsere Zeit," 1881, No. 2 (15 pages). The present literary production in both countries, China and Japan, he states, is just as enormous as it has been in past centuries, and as for its value, it can be stated that in many respects it is much superior to what appears in our literary markets.

A LEADING member of the French mission in *Basutoland*, Rev..A. Mabile, personally superintends in England the printing of a bible translation into the Basuto-Caffrian language.

A NEW Phœnician inscription, dated from the reign of Pumiathon, B. B. 330 (?) has been discovered in Cyprus.

ETHNOLOGIC NOTES.

THE German Society for Anthropology, Ethnology and Prehistoric Research held its eleventh general meeting at Berlin from the 5th to the 11th of August, 1880, and its stenographic report, which is before us, fills 160 pages in 4°. Prof. R. Virchow presided, and an officer of the government, H. v. Gossler, delivered the inaugural discourse, reviewing the most important achievements of the society during the eleven years of its existence. Of the speakers who took part in the discussions and read papers during the six days of the meeting, we mention Dr. Schliemann, on the subject of his Trojan discoveries; Ad. Bastian, on the myths of the Polynesians; Dr. Fraas, on a specimen of the *Archeopteryx*; Brugsch-Bey, on new discoveries in Egypt; Kupffer, on the opening of the grave of the philosopher Kant; Schaaffhausen, on a prehistoric map of the Rhenish Provinces; Kollmann, on the color of hair and eyes of the population in Switzerland, etc. This report deserves the most attentive perusal throughout. Not only is there an abundance of novel and striking facts mentioned, but these facts are presented in their appropriate connection with other facts by some of the most celebrated scientists of our epoch.

A. S. G.

PROF. DR. JOH. RANKE continues the publication of his exhaustive article on the skulls of the rural population of old (or southern) Bavaria in the most recent number of the "Beiträge," the organ of the Munich Society for Anthropology, etc. (Vol. III, Nos. 3, 4, pp. 99-230, plates VII to XVI, Munich, 1880). He finds, after measuring one thousand skulls taken from modern ossuaries, that the mean proportion of the width to the length is 83, 2 per cent., and that the type is therefore decidedly brachycephalic. He also shows that the high ridges of the central Alps are a physiologic center of brachycephaly, and that the vital influences to which a people is subject have a very pronounced and incontestable influence upon the formation of its skulls. Another article of Prof. Ranke treats of "Neolithic Caves in a Portion of Franconia."

A. S. G.

A PHOTOGRAPHIC ALBUM of the more important objects exhibited at the exposition of prehistoric and anthropologic finds in Berlin (August, 1880,) has just been published by the first secretary of the Anthropological Society, Dr. A. Voss. It contains 168 plates in small folio, and may be ordered for the amount of 150 marks from C. Günther, Leipziger Strasse 105 Berlin W. The same author has composed a reasoned catalogue of all the objects exhibited in Berlin, which is partly illustrated and holds 746 pages.

GENERAL REVIEW.

THE CROSS TAU.—The *Antiquary* for March has an article by Llewellyn Jewett, F. S. A., on the cross tau. This cross, called Crux Ansata and St. Anthony's Cross, is a three-limbed cross in the form of the letter T. It is identical with the Egyptian emblem of life or key of the Nile, and is sometimes used as a phallic symbol. It is found on the sculptures of Khor-sabad, the ivories from Nimroud and on Assyrian cylinders.

It is stated by Lucan to have been a symbol of the gods among the Druids. It is found among the Gnostic and Hebrew charms. It is also found with other forms of the cross on sculptures at Copan and at Palenque, in Central America. It occurs in Norman and Saxon sculptures in Canterbury Cathedral and on London Tower.

The cross of the heathen world was derived from primeval religion. Thus the tau or the crutch, the emblem of life, becomes an emblem of the cross upon which we are taught to lean, and which reconciles God with man.

THE *Antiquary* for February-March has an article by Rev. M. G. Watkins entitled "Antiquarian Notes on the British Dog."

The dog makes its appearance in the lower pleistocene era, along with wolves, elephants and oxen. There is no evidence that dogs were known to the cave men, but in the neolithic age the dog was occasionally employed for food. Mr. Darwin believes that different crossings with some *canis primitivus*, with wolves and jackals, may account for the numberless modern breeds of dogs.

The first authentic remains of the British dog, according to Prof. Owen, in his "British Fossil Remains," are some bones found in an English cave. Dogs are frequently found represented on Roman kettles and pottery. These dogs are of two kinds, a large dog resembling the present mastiff and a smaller dog such as the greyhound.

British mastiffs were celebrated among the ancients. Strabo mentions that "hides, slaves and dogs of good breeding were useful for hunting pursuit." Claudian, A. D. 400, speaks of the molossus mastiff, "Immortal molossus barking amid the thick mists surrounding the mountain tops."

EVENTS AND DISCOVERIES.

THE fourth session of the *Congres de Americanistes* meets at Madrid, Spain, Sept. 26, 1881. The subjects embraced in the programme are mainly the comparative archæology and ethnology of Peru and Polynesia on one side, and of Peru and Cuba on the other. It is possible that the next session will be held in the United States. The following gentlemen are delegates from the United States: Prof. R. B. Anderson, of Wisconsin; Prof. S. F. Baird, District of Columbia; Hon. H. H. Bancroft, California; Levi Bishop, of Michigan; E. T. Cox, Colorado; Rev. B. Y. De Costa, New York; J. D. Putnam, Iowa; Judge M. Force, Ohio; A. S. Gatschet, Washington; Dr. C. C. Graham, Louisville, Ky.; Dr. J. D. Moody, Illinois; Prof. J. K. Patterson, Ky.; Rev. Stephen D. Peet, Wisconsin; Hon. R. Robertson, Indiana; Prof. Shaler, Kentucky; Hon. Robert C. Winthrop, Boston, Mass.

A KITCHENMIDDEN OF THE GREEK NAVAL FORCE NEAR TROY.—In a paper read before the British Archæological Association, February 2, Dr. Phéné described a kitchenmidden found near the supposed landing place of the Greek fleet. A quantity of animals' bones, oyster shells, and rude pottery which does not assimilate to any pottery with national features of construction. Dr. Schliemann argues that here was a primitive town, but Dr. Phéné concludes, from the absence of spindle whorls and domestic implements that there were no women there, and that the rude pottery was such as the Greeks would want for momentary purposes, not anticipating a length of siege.

A ROMAN WALL FOUND UNDERNEATH THE STREETS OF LONDON.—Mr. Loftus Brock, at a meeting of the same society, March 2, described the progress of the discoveries at Leadenhall market. An extended length of Roman wall has been met with, over 12 feet thick, and going from east to west toward Grace Church street. Some brilliantly colored fragments of fresco from the wall were displayed.

A portion of the old city rampart has also been discovered near Houndsditch.

STONE AND EARTH WORKS IN WALES.—At the session of the Cambridge Antiquarian Society held on Feb. 28, Prof. Hughes, the President of the society, exhibited some felstone implements which were found near Elwy, in North Wales, associated with the remains of the rhinoceros *hemitechus*, *ursus spelæus*, *hyena spelæa*. He also gave a sketch of the hill forts which occur on the border of the same country. These forts fall under two groups, first, stone works; second, earth forts. There was no mortar used in the stone walls, and no dressed stones fitted together. The earthworks consisted of a single fosse and vallum, which conformed to the shape of the ground, and ceased where a precipice rendered the defense unnecessary.


NUMISMATIC.—A hoard of coins belonging to the time of Sertorius, B. C. 80-73, has been discovered at Barcus, near Dox, Celtiberia.

Mr. B. V. Head read a paper before the Numismatic Society of London, on the "Ephesian Mint," &c. An addition to the long list of Ephesian magistrates has been made by the means of coins. "The History of the Coinage of Ephesus" is a work already published by this author.

THE OLYMPIADS.—Prof. Mahaffy, in a paper read before the Society for the Promotion of Hellenic Studies, Feb. 24, questions the authenticity of the first fifty Olympiads, as the Olympian Register was prepared by the rhetorician Hippias about 400 B. C., a doubtful authority on such a subject.

AN ANCIENT POMPEII IN THE DESERT OF SAHARA.—M. Torey, a French archæologist, in connection with the proposed trans-Sahara railway, has, it appears, discovered a town as completely buried in the sand as was Pompeii in the ashes of Vesuvius. This discovery was first made known at Algiers.

THREE ROMAN ALTARS, ALONG WITH A ROMAN STATUE have been discovered whilst excavating in the grounds of the convent at Micklegate, in Yorkshire. They were five feet below the surface, and the statue was in a recumbent attitude.



THE EARLIEST PRINTED BIBLE IN EXISTENCE was recently sold at the auction sale of Sotheby & Co. It was printed at Metz, by Gutenberg and Faust, 1452, folio, on movable types, and was bound in pigskin and boards. The title is "Biblia Sacra Latina (Testamentum Vetus); e versione et cum prefatione S. Hieronymi." A copy of the same book, but containing both the Old and the New Testament, two volumes, was sold at the Brinley sale in New York, April 7. The book was sold for \$8,000 to Mr. Hamilton Cole, a lawyer of New York. The book is printed in old Gothic letters, with gold ornamented capitals. The leaves are very broad, measuring $15\frac{1}{8}$ by $11\frac{1}{2}$ inches. There is no pagination and no title.

THREE COPIES OF ELLIOT'S INDIAN BIBLE, first and second edition, were also sold at the Brinley sale, one of the first for \$900 to Dr. Ellsworth Elliott, of New York city, and one of the second to the Pennsylvania Historical Society, for \$590. Jonathan Edwards' copy was sold for \$550.

It is reported from Cairo, Egypt, that two pyramids have been discovered beneath the sand, to the north of Memphis. The vaults and chambers are said to be full of inscriptions.

ANOTHER STATUE OF MINERVA has been discovered. It was supposed at first to have been the celebrated statue by Phidias, but proves to be a copy.

REV. T. P. CRAWFORD, of Tungchoo, China, has discovered two genealogical tables which he identifies with the "Generations of Adam" and the "Generations of Noah," as given in Gen. v. and x. This discovery is an important one if it shall prove true.

DR. SCHLIEMANN'S Trojan antiquities, including all the gold and silver ornaments of the so-called treasure of Priam, have been presented to the Emperor of Germany and are placed in the museum at Berlin.

ANOTHER INSCRIBED STONE has been found. It is described by Geo. S. Morse, of Cairo, Ill., who is of the opinion that it is genuine.

AN IDOL bearing a striking resemblance to a Mound Builder relic from Mexico has been discovered by M. Desiré Charnay. *The North American Review* for April contains a heliotype of this statue but no description. A stone image formerly in the possession of T. W. Kinney, of Portsmouth, Ohio, resembles it in many particulars. Both images are sitting, with hands around the knees and face placid and calm. The Ohio image has no ornamentation and is roughly wrought, but both probably represent some common divinity or ancestor.

A MOORISH COIN FOUND IN NEW MEXICO.—Dr. J. D. Butler, of Madison, Wis., calls attention to the following find: A soldier detailed from the U. S. army to accompany a surveying party of the Smithsonian Institute, soon after the war, picked up a coin near the Colorado river, which has just come to light. It is a coin with Arabic characters, in material brass, but no date. The coin was probably lost by some Spanish soldier or missionary, and was old when in the hands of its original owner.

Mr. William McAdams, in digging into a mound in Calhoun county, Ill., came upon a burial heap containing twelve skeletons, very much decayed, but arranged in two rows, with their feet toward one another, and the heads out toward the outer line of the mound. There were with the skeletons seven totems, or banner stones, four of which were of porphyritic granite. The stones were perforated, a shoulder being left large enough to receive the rod or handle. The edges of the stones were broader than at the centre, but straight instead of being curved, as is usual. There were also in the grave three grooved axes, made of sienite, also three large spear points of white flint, thirty-five flint implements resembling a large knife or dagger, two inches wide and eight inches long; four copper axes, varying in size from two to three inches long, and an inch or inch and a half wide; a large spear point of red flint; and a perforated stone tube. The axes were of the usual shapes; two of them tapered from the butt end toward the edge, but the edge flared sharply. The other two were less flaring but were rounded on the cutting edge. This is the only case where Mr. McAdams has found grooved stone axes in a mound, though they are very common relics on the surface.

BOOK REVIEWS.

THE CHRYSANTHEMUM: a Monthly Magazine for Japan and the Far East. Vol. I, No. 1, January, 1881. Yokohama: Kelly & Co., No. 28 Main street.

The evidence of the change which is coming over this island of the far East, called the "Sunrise Kingdom," is given in the publication of a monthly magazine like this. The somewhat "flowery" name conveys the idea that Japanese thought is ruling the English and American mind, yet the scholarship and the enterprise and general aggressive spirit manifested by the publication reminds one of London or of New York. Among the articles is one by Rev. H. Waddell, B. A., on the rendering into Japanese of some theological and psychological terms, which well repays the reading.

THE REMAINS OF AN ABORIGINAL ENCAMPMENT AT REHOBOTH, DELAWARE; a Paper read before the Numismatic and Antiquarian Society of Philadelphia, Feb. 5, 1880, by Francis Jordan, Jr. Philadelphia, 1880.

The encampment described in this pamphlet is situated on the sea-coast, about 150 miles from Philadelphia, 14 miles from Cape May. Its present dimensions are, about three-quarters of a mile in length, and from one hundred to five hundred feet in width. It is situated five hundred feet from the ocean, and is protected from the waves by a low sand bluff. The site

of the encampment has traces of several hundred camp fires, also a number of large shell mounds, showing accumulations of "clam bakes." Fragments of pottery, celts, arrow-heads and stone implements are also found. The pottery is of a primitive pattern, and many of the tools are also rude in their form and finish. The opportunity of examining this encampment was afforded the author of this paper just in time, for the place has since become a fashionable watering-place, and traces of aboriginal life are fast disappearing.

GREEK MYTHOLOGY SYSTEMATIZED. By S. A. Scull. Porter & Coates, Philadelphia.

This work treats on a subject which is one of the most interesting in all the range of ancient literature—that of comparative mythology. Though ostensibly devoted to Greek mythology, or more properly to the theogony of the Greeks, yet the author, throughout, gives the names and the symbols or emblems of the corresponding divinities of the Egyptian, Assyrian and Phœnician, and sometimes of Indian and Persian nations.

The author does not believe with Max Müller that the naturalistic method will explain everything. In fact she maintains that the God-idea was frequently lost by the naturalistic process rather than developed by it. Still, wherever the naturalistic or elemental worship preceded, as in the case of the Pelasgian divinities, the fact is recognized. At the same time the caste of the Greek mind is seen to be unfavorable to the naturalistic method.

The intuitive perception of a supreme one, of a great first cause, was very early, and personality was attributed to the divinity; but through the gradations of astronomic deities the God-idea sank away into "animism" and into sensualism.

There was in the development of the Zeus idea the increasing desire to cast the divine life into human form—anthropomorphism. Incarnations were, however, degradations, as divinities thus represented human passions. Still the Greeks added to the number of the attributes of their divinities and then gave expression to these attributes by drapery, position and every accessory, as the Egyptians did by symbols, color and peculiar form. The art of the Greeks was connected with anthropomorphism while that of the Egyptians became symbolic, and then conventional and fixed. Egyptian animal symbols became mnemonic, but the expression of Greek divinity became soul moving.

One great merit of the book is that it gives the art history of mythology. This has never been done before, but the many discoveries have rendered it a necessity. The reader thus sees in art the Pelasgian face of Jove, and even the Scythic expression, but afterwards recognizes the complete Greek ideal.

THE GRANITE MONTHLY; a New Hampshire Magazine. Vol. III, No. 7; April, 1880. Concord, N. H.: Conducted by J. H. McChintock.

This is an interesting number of a very neat and well-conducted little monthly. The contents are of a miscellaneous character, but several of them are on historical topics, such as "Anecdotes of Gen. Stark," and the "Historical Sketch of Newport." It were well if more such journals of a local character, and dependent on local patronage, could be sustained.

THE BRONZE CRABS OF THE OBELISK; a paper read by Mr. G. L. Fenordent, at a meeting of the American Numismatic and Archaeological Society of New York, held at Lieut. Goringe's rooms, Jan. 15, 1881.

This monogram evidently is to be connected with some other paper read before the Society, or else known to its members. The opening sentence otherwise is without significance. It is as follows: "In examining these instructive fragments of bronze, the discovery of which has resulted in establishing the true history of the obelisk now in New York, as well as that of the one in London, and does away with the legend which brought the name of Cleopatra in relation with their erection at Alexandria, we cannot help inquiring into the reasons that led the Romans to select the 'crab' to support the venerable monolith." The author gives an explanation: "We know, however, that the 'crab' is constantly brought in connection with the worship of Apollo in ancient times, and we remember that

It was principally at the beginning of the Roman Empire that Apollo Phœbus was distinctly identified with the sun." This, however, would be very mysterious did we not know that a bronze crab found in the pedestal bears an inscription on its claw which gives the date of the erection of the obelisk at Alexandria as in the times of Augustus Cæsar. There were four such crabs placed just above the pedestal. When the obelisk was removed these came to light, and the inscription on one of them gives the date of the erection at Alexandria.

TESTIMONY OF THE AGES; or, Confirmation of the Scriptures from Modern Science and Recent Discoveries; Ancient Records and Monuments; the Ruins of Cities and Relics of Tombs; the Greek and Latin Classics; Assyrian Inscriptions and Egyptian Hieroglyphics; Antique Sculptures, Coins and Medals; the Ordinance Survey of Sinai; the Late Exploration of Palestine; the Literal Fulfilment of Prophecies, as Attested by the Writings of Heathen Nations; Etc., Etc. With numerous illustrations. By Herbert W. Morris, D. D. Philadelphia, Pa.: J. C. McCurdy & Co.

This is the somewhat encyclopedic title of a subscription book; but we are bound to say, after an extended examination, that the contents quite fully justify it. The book has not been prepared for scholarly specialists in separate departments of biblical learning, but for the many pressed and hurried workers, who want the latest facts, with the best opinions; and among these are included not a few scholarly ministers, and many hard-worked pastors and Sunday school laborers. The following, from the introduction, gives a good idea of the arrangement and scope of the book:

"The passages of scripture which receive confirmation are taken and produced in the book in the order in which they stand in the bible throughout. Immediately under each of the passages are placed the testimonies to its truth and correctness. Each testimony is given in the *exact words* of its author or source, and followed by a full reference to the chapter and page of the work where it may be found."

As an example of what has here been done for many portions of the scriptures, it may be noted that such men as Reginald Stuart Poole, William Fraser, Sir William Thomson, Sir Charles Lyell, Dr. Whewell, Principal Dawson, Hugh Miller, Baron Humboldt, Elias Loomis, Professors J. H. Kurtz, Pritchard and Tristram, President Hitchcock, Guyot, Tyndall, Huxley, Dana, Agassiz, the Duke of Argyll, Dr. E. F. Burr and George Smith are quoted judiciously on the Beginning and the Creation. Enough of the results of human study is given to aid the thought of common readers, and not enough to overwhelm them; while many a studious minister whose library is not extensive will find here, and ready at hand, many scientific facts and archaeological records in their exact statement; *e. g.*, the Chaldean record of the creation, as discovered and deciphered by George Smith, is given entire. Also, that of the flood. Every well-informed minister knows about these; but many have got them where they can lay their hands on them at once.

As a rule the results of the latest discoveries and of the ripest scholarship are given regarding the distribution of races, the Tower of Babel, the confusion of tongues, and the dispersion; and literally enough to satisfy the scholar and show him where to look for verification of statement, and with such simplifying explanations as to make matters plain to the unlearned. Numerous wood cuts of the broken baken-clay tablets of Ninevite ruins help to show how the records are found, and what work has been expended to put the fragments together.

In geographical descriptions, like that of Bethel, the author calls upon such a word-painter as Dean Stanley, while for all critical judgments dependence is placed on less fervid, but more exact and weighty, authorities. There are many valuable quotations from ancient writers, with much helpful material from modern scholars concerning Egypt and the peninsula of Sinai. There is also much curious information regarding the wandering and the wilderness brought together, while proper explanations of the Jewish ritual worship, which so few really understand, are given. The light shed on the times, customs and events mentioned in the historical books of the Old Testament, and the historical portions of the prophecies is very satisfactory, suitable mention being made of the recent discoveries which settle many previously disputed points, such as, Who was Belshazzar?

Occasionally, as in regard to the probable site of the destroyed cities of the plain, the quotations do not tend to settle in one's mind any definite

idea; but perhaps the indefiniteness is not greater here than the uncertainty in the minds of those who have followed the latest deliverances of scholars upon that subject.

The many fac-similes of Ninevite, Babylonian, Egyptian, Palestinian, and later inscriptions, sculptures, paintings, hieroglyphics, etc., are a valuable feature. A full page illustration of the Moabite stone is given, showing how much has been broken off and lost, where the cracks are, and the letters of the inscription as given, large and clear enough to be easily read.

The engravings are of very unequal merit; several on steel are fine, while the frontispiece of the New Testament, showing the Tower of Hippius, etc., is exquisite; some of the wood cuts are good, those of archaeological matters acceptable; but some like that of Capernaum, of which we have many good photographs, are wretched. Yet, after all, it is a wonder that the poor ones are so few, when so many are attempted; while it should be said that some in the New Testament, which are evidently from photographs, and correct, are really excellent.

A scholar will miss the names and opinions of many able writers, especially among Egyptologists, but he will see that they are among those who are helping to settle *uncertain* matters, while the object of this work is to give, almost exclusively, the results of research and study which are generally accepted as settled and reliable.

It is superior to many subscription books in that it is compact and solid. There is not the padding without material which many of that class show.

A list of authors, with title of work quoted from, another of illustrations and a good general index makes the abundant and excellent material readily available. The book will be of especial value to pastors, leaders of Sunday school meetings, and bible-class teachers, while it will be of great value in any home library.

W. S. HAWKES.

BOOKS RECEIVED.

REPORT of the Proceedings of the Numismatic and Antiquarian Society of Philadelphia for 1880. 8°. 31 pages.

JEAN PIERRE PURRY. Memorial Presented to . . . the Duke of Newcastle upon the Present Condition of Carolina and the Means of its Amelioration. 4°. 24 pages. This is a reprint of a rare and curious pamphlet of the leader of a Swiss colony, written in 1724. Reprinted privately, Augusta, Ga., 1880.

ABSTRACT of Transactions of the Anthropological Society of Washington, D. C., for 1880. Prepared by J. W. Powell. 8°. 111 pages.

SZYMIMKIE-S JESUS-CHRIST. A Catechism of the Christian Doctrine in the Flat-Head or Kalispé Language. Composed by the Missionaries S. J. St. Ignatius Print, Montana, 1880. 8°. 45 pages.

LU TEL KAIMINTIS Kolinzuten Kuitl Smiliml. Some Narratives, from the Holy Bible in Kalispé. By the same. St. Ignatius Print, 1879. 140 and 14 pages.

HYACINTHE DE CHARENCEY. Les animaux symboliques dans leur relation avec les points de l'espace chez les Américains. 8°. 19 pages.

_____. Chronologie des ages ou soleils d'après la mythologie mexicaine. 8°. 29 pages.

_____. Déchiffrement des écritures calculiformes ou mayas. 8°. 32 pages.

_____. Recherches sur les dialectes Tasmaniens. 8°. Alençon, 1880. 56 pages.

CODRINGTON, Rev. R. H. Notes on the customs of Mota, Banks Islands. With remarks by the Rev. Lorimer Tizon, Fiji. Royal Society of Victoria, Australia, 1879. 25 pages, 8°.

GOTTHOLD EPHRAIM LESSING. German speeches delivered at the Lessing anniversary in the German Literary Society of Cincinnati. Cincinnati, 1881. 8°. 16 pages.

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REV. STEPHEN D. PEET.

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MOUND BUILDERS' WORKS NEAR NEWARK, OHIO.

BY ISAAC SMUCKER.

In few localities are the works of the Mound Builders more extensive, more numerous, more labyrinthine, more diversified in style and character, more gigantic in proportions, than are those at Newark, Ohio. Mr. Atwater, one of Ohio's early time archaeologists, more than two generations ago, personally made more or less thorough examinations of a large proportion of the most celebrated of the works of the Mound Builders in Ohio, and also careful mathematical surveys of many of the most elaborate and prominent of them elsewhere; after having done so he characterized those at Newark as "the most extensive and intricate, as well as the most interesting in this State, perhaps in the world!" On many accounts he declared them to be "quite as remarkable as any other in North America."

This group of Mound Builders' works first became known to the white settlers of the Licking Valley eighty years ago, all of them being then covered with a dense growth of forest trees, many of them having a circumference of more than ten feet, and showing, by their concentric circles, to have had a growth of more than five hundred years. A heavy undergrowth also covered the works, almost hiding them from view. In short, they were situated in the wilderness, when the pioneers of the valley discovered them, having never suffered from the ravages of the plow, nor had the giant growths of walnut, sugar, maple, beech, oak and wild cherry trees, that stood upon their banks and within their enclosures, ever been despoiled by the woodman's axe.

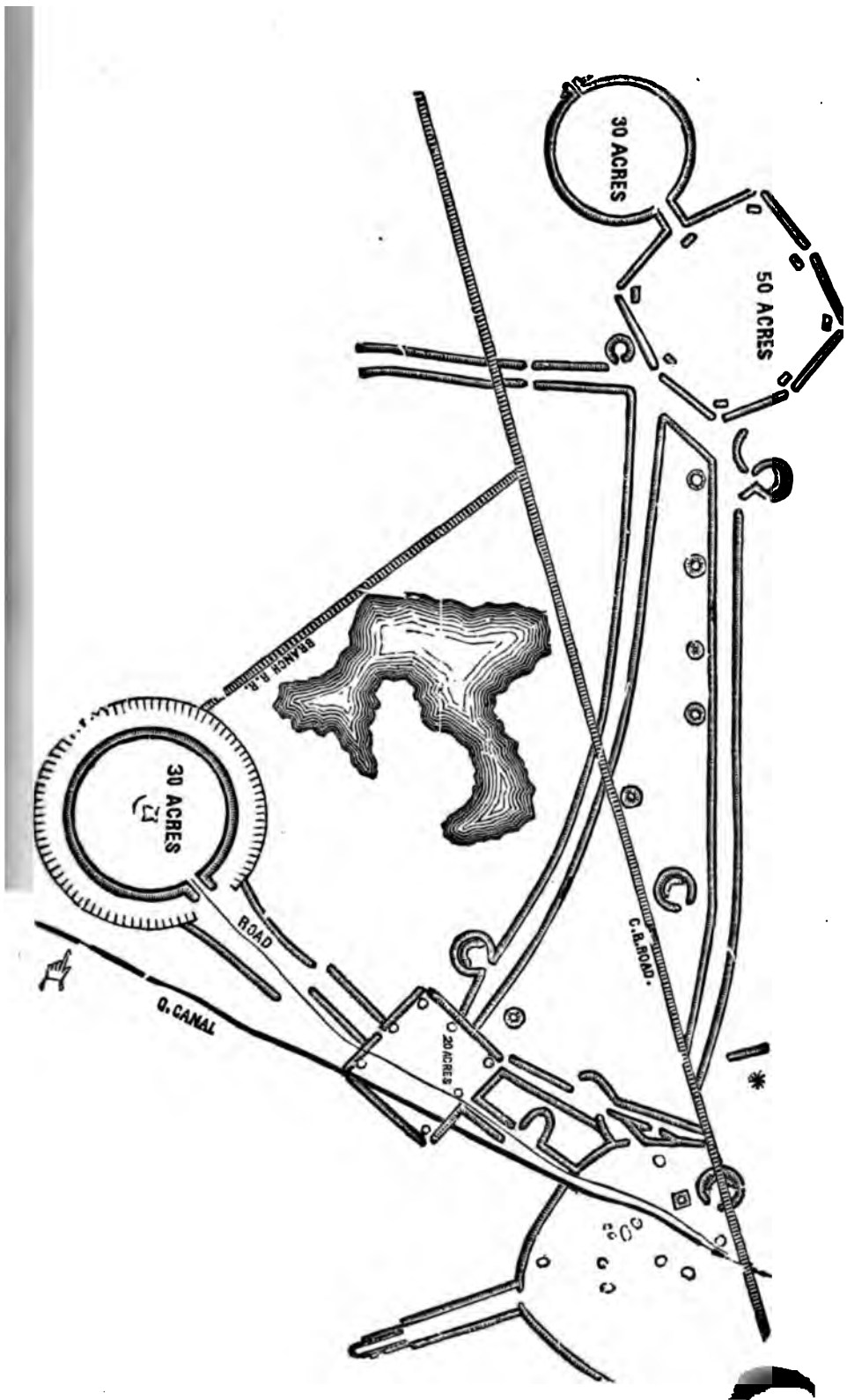
To give assurance to the reader of the accuracy of the descriptions, the writer hereof states, that he has been familiar with the locality and antiquities above described, more than *fifty-five* years. He saw them while yet more than nine-tenths of this renowned triangle of ancient works had been undisturbed by the devastating plow and harrow of the pioneer, or by the destructive axe of the iconoclastic woodsman. In those days, all of "*ye olden time*," he sometimes "followed the chase," though rather as an amateur hunter, and with the sportsman's gun in

hand, at leisure hours, during a period running through many years, he pursued the game over these interesting works, which were still covered with a dense undergrowth and trees of gigantic size; therefore, it may be claimed that he has been writing about something of which he ought to have some knowledge.

He early became acquainted with Mr. Atwater, the first Ohio writer on our Archæology; read his description of these ancient works not many years after the American Antiquarian Society published them; was long and intimately acquainted with Judge Holmes, who surveyed them for him; had interchanged opinions with those gentlemen and other antiquarians respecting them; had lived within sight of and upon the border of these extensive works of the Mound Builders, more than fifty years; moreover, had made measurements of some of them; he has therefore described works which have been under his own often repeated observation, of which he has actual personal knowledge, and of which he has had ample opportunities to acquire information; stimulated withal by a wish and earnest desire to acquire all the knowledge attainable respecting them.

The Raccoon and South Fork creeks unite on the southwestern borders of Newark, and these ancient works cover an area of three or four square miles between these streams and contiguous to them, extending about two miles up the Raccoon and a less distance up the South Fork. These works are situated on an elevated plain forty or fifty feet above these streams, the Raccoon forming the northerly boundary of said plain, and the South Fork its southwestern boundary. The streams come together nearly at a right angle, the three or four square miles of land, therefore, covered with these ancient works, situated between said creeks, and extending several miles up both of them from their junction, is, in form, very nearly an equilateral triangle.


The foregoing works consisted of earth mounds, both large and small, in considerable numbers, of parallel walls or embankments, of no great but tolerably uniform height; of small circles, partial or incompleated circles, semi or open circles, all of low, but well-marked embankments or walls; of enclosures of various forms and heights, such as large circles—one parallelogram, one octagon, and, perhaps, others which may have become partially or wholly obliterated under the operation of the plow or through the devastating action of the elements, their banks having been originally of small elevation, and among them one of the class designated as "effigy mounds." This remains in a good state of preservation, situated within and about the center of the largest circular enclosure, known as the "Old Fort," and will be described further on, only remarking here



that it is a representation of an immense bird "on the wing," and is called "Eagle Mound."

By reference to the cut representing the Newark earthworks, it will be seen that there is, north of the railroad, a circular fort or enclosure, marked thirty acres (which, however, should be only twenty), connected by parallel banks, with another of octagon form, having eight openings, with a protection mound or embankment covering each of the entrances. This contains fifty acres, and a large portion of it has been plowed over, although the banks are readily traceable, and the portion of it that remains in the woods still shows the banks to be five or six feet in height. The gateways are about fifteen feet wide, and the walls inside of each are of the same height and size of those of the enclosure generally, and are about four feet longer than the width of the openings or gateways. The walls of this work, as well as those of the circular enclosure with which it is connected, are as nearly perpendicular as the earth could be made to lie, but are quite a number of feet in width on the top, even where the plow has not run over them. It will be observed that there is a considerable enlargement of the bank of the circular enclosure, directly opposite the entrance into it, through the parallel walls or *covered way* connecting it with the octagon enclosure. This was, doubtless, an observatory, and commanded an extensive view over the plains and over the whole system of works. This observatory has been greatly mutilated and despoiled by excavations into it and by the removal of considerable of the stone and earth that composed it; still, although in ruins, it is twenty feet or more in height, while the banks of the enclosure, generally, are not more than ten feet. Under this observatory, it is probable, there was a secret or subterranean passage to a stream that flowed near it.


The cut shows three *covered ways* or parallel walls that lead across the railroad to other portions of this group of works. One conducts to a circular work, now almost obliterated, situated at the crossing of the canal by the railroad. Another leads directly into the square enclosure, marked twenty acres, which has an entrance at each corner, and also at the northeast and southwest sides, the latter two having *covered ways* to the enclosure. All the gateways or entrances are protected by small mounds inside, as in the case of the octagon. The Ohio canal passes through this work, and so also does an extensively traveled State road; and the portion of this square enclosure whose banks have not been thus obliterated has been cultivated for at least half a century, so that its banks or walls, which, probably, were never very high, are now barely traceable.



None of these works except the "Old Fort," had any moats or ditches connected with them, either inside or outside. Parallel walls, with the space between widening as they approach the gateway of the "Old Fort," the most gigantic of all the works of this group, connected this square enclosure with it, as well as with other works of this group. The parallel walls that extend southward from one of the gateways of the octagonal work, as seen in the cut, was traceable many miles, in the direction of the Hockhocking river, at some point north of Lancaster, where Mr. Atwater thought it connected with other similar works. It is not known to the writer, however, that any effort was ever made to follow these parallel walls to ascertain with certainty that the space between them did or did not serve the purposes of a road between this point and the Hockhocking.

"The Old Fort is situated a mile and a half in a southwesterly direction from the court-house in Newark, and belongs to the class of Mound Builders' works known as enclosures. It is not a true circle, the respective diameters being eleven hundred and fifty and twelve hundred and fifty feet. Its banks, nearly a mile in length, were formed by throwing up the earth from the inside, which left a ditch of sloping sides, ten feet (in many places more) in depth, and ranges, in perpendicular height, measuring from bottom of ditch to top of bank, from twenty to thirty feet. This enclosure, which embraces within it about twenty-seven acres of land, was constructed on level ground, and the ditch above described was often seen, during the earlier decades of the present century, partially, and sometimes wholly, filled with water all around the circle. From some cause it has not held water of late years to any great extent. Viewed from the outside, the embankment does not rise more than ten to fifteen feet above the surface of the surrounding ground, but observed from its top, the eye taking in the depth of the ditch, it seems, of course, much higher, so as to correspond in height, at least, to the figures above given.

"The Old Fort has an entrance or gateway, which is flanked by a high bank or parapet on either side of it, running outward forty yards. The gateway and parallel walls or parapets are on the eastern side of the circle, and the ditch which follows it also extends to the termination of the parallel banks that cover the entrance. Here the banks are highest; the parallel walls, as well as those which form the circle immediately adjoining them at the gateway, reaching, for a short distance, a perpendicular height of at least thirty feet, measuring from the bottom of the ditch, or twenty feet, measuring on the outside. The gateway or entrance measures seventy-five feet between the



ditches or moats, and between the parapets or banks of earth that flank the entrance, one hundred and thirty feet.

"Trees of a large size are still growing upon the banks, all around the circle, as well as upon the parallel walls at the entrance. They are equal in size to those that are yet found both on the outside of the enclosure and within it, and of the same varieties. Some of them measure ten feet in circumference and are still thrifty, giving no indications of decay. One of the largest trees that stood on this embankment was cut down in 1815, and its concentric circles showed that it had attained to the venerable age of five hundred and fifty years. Many others of its contemporaries, too, are still flourishing, and enjoying an equally vigorous 'green old age.' This fact may be borne in mind as indicating the antiquity of this wonderful work, especially when taken in connection with the strong probability that this tree, of now more than six centuries ago, was more likely of the second or third growth of trees than of the first, after the Mound Builders had erected this enclosure, which is only one of the extensive series of labyrinthine works, whose embankments measure many miles in length, and which, by low parallel banks, were connected with others of similar character, as remote from them as are those of the Hockhocking and other distant places.

"In the middle of the Old Fort is an elevation, evidently artificial, which never fails to attract the attention of the observing, and is generally designated as Eagle Mound. It is full six feet high, and is in the form and shape of an eagle in flight, with wings outspread, measuring from tip to tip two hundred and forty feet, and from head to tail two hundred and ten feet, and is clearly of the effigy class of the works of the Mound Builders. It faces the entrance, and therefore lies in an east and west direction, its wings extending north and south. Excavations made many years ago into the center of this earthen figure, where the elevation is greatest, developed an altar built of stone, upon which were found ashes, charcoal and calcined bones, showing that it had been used for sacrificial purposes.

"Many have held the opinion that the Old Fort was a military work, constructed for defense, but its location on a level plain, its symmetrical form and inside ditch, and the indications of the presence of fire, seen on the altar, and its sacrificial uses, so clearly suggested, all go to render this opinion to be erroneous, or to say the least, one highly improbable. All the known facts pertaining to it go to raise the presumption that within its enclosure were conducted, by Mound Builders, the rites and ceremonies of their religion, they having manifestly

been a religious and superstitious race, given to the practice of offering up human as well as animal sacrifices.

"Others have believed that the Old Fort was the seat of government of the Mound Builders, and that their monarch resided here; and still others have held that within this enclosure they practiced their national games and amusements, similar, possibly, to the Olympic, Nemean, Pythean, and Isthmian games that were so universally popular with the enlightened Greeks during the 'Lyrical age of Greece.' Others, still, hold different opinions, but I think the weight of evidence is altogether in favor of the theory that the Old Fort, one of the most renowned of all the Mound Builders' works, was constructed for the uses of a sacred inclosure, and was, therefore, primarily built and used for purposes connected with their religion; albeit it may also have been their seat of government, and residence of their monarch; and may, possibly, also have been sometimes used for the practice of their national games. Least likely of all is the notion that it was constructed for military purposes, or was ever used as a defensive work.

"It was in October, 1800, when Isaac Stadden, a pioneer settler in the Licking Valley, discovered it, and it is not certain, so far as is known to the writer, that any of the white race had ever seen it before the above date."

The foregoing are the principal works of the Mound Builders, of the Newark group, that remain. As already indicated, many of them that were in a good state of preservation very many years after Mr. Atwater had them surveyed, have been utterly destroyed by agencies heretofore mentioned; but as an additional and potent agency in their demolition, the process of building a town (West Newark) upon them, already numbering its inhabitants by hundreds, has been going on of late years, and naturally enough, as far as its streets, alleys and lots extend, the ancient works have all been leveled by the plow, the scraper and the shovel.

At and near the termination of some of the connecting parallel walls, or embankments, there were, originally, at many points watch-towers, or small mounds of observation, which have almost wholly disappeared, the plow having been run over most of them for half a century or more. When Mr. Atwater first surveyed, or rather had these works surveyed by Judge Holmes (who was a competent surveyor) more than sixty years ago—they being still in the wilderness—the aforesaid watch-towers, or small mounds of observation, were yet so plainly observable that he located them on his map or engraving of these ancient works. But they and many others are gone, entirely obliterated. Some disappeared when the Ohio canal was

run through this group of ancient works, in 1827; others were destroyed thirty years ago, when the road bed of the Central Ohio Railroad was constructed, which runs for a mile or more through this triangle of ancient earthworks; a number more were demolished within a few years, during the progress of the erection of extensive buildings for rolling-mill purposes; and others, many others, as well as low banks or parallel connecting walls or embankments, and small observatories, have disappeared under the long-continued ravages of the plow.

The author of the recently published "History of Licking County" remarks as follows upon some of these obliterated mounds:

"A curious group of mounds that attracted the attention and wonder of the pioneers, were unfortunately destroyed by the building of the Central Ohio Railroad. They were not far from the Old Fort, and stood just at the foot of Cherry Valley, and a little east of the Ohio canal, where the above mentioned railroad crosses it. Three of these mounds stood in a line north and south; the fourth was a little east and between the two northern ones. They were all joined together at the base. In the destruction of this remarkable group of mounds, many interesting relics and facts were unearthed that appear worth preservation. The mound farthest south was included in the embankment of the Central Ohio Railroad, and was first destroyed. The other three were greatly injured by the earth being taken to make the railroad embankment. The northern mound was the largest, and was about twenty feet high. This was finally leveled to form a site for a rolling-mill. The upper eight feet of this mound was composed almost entirely of black loam, which appeared in layers. These layers or strata had seams where the earth did not unite, although it appeared to be of the same character. Between these layers there were often marks of fire, and in one place, from four to six inches extending across the mound, there were strong marks of fire, with charcoal and ashes. The different layers of earth did not often pass all over the mound—sometimes not over more than a fourth of it, and often overlapped each other at the edges. It would seem that these layers of earth were put on at considerable intervals of time, first on one side and then on the other, the different sides of the mound varying in structure. In the upper eight feet of this mound no human or other bones were found. Several fine sheets of mica were taken out. A hole near the center was observed to continue down very near to the bottom of the mound. In some places this was filled with sand, differing from the earth around it. In the lower eight feet of the mound quite a number of these perpendicular holes were observed.


One on the east side was filled with fine charcoal and ashes, and extended fully four feet below the surrounding surface of the earth. The whole base of this mound was of disturbed earth, four or more feet below the surrounding surface. Some six or eight of these post holes were discovered, but none but the center one continued for more than a few feet. They were mostly filled with fine sand. About one-half of the lower portion of the mound was made of layers of blue clay; then there was a layer of sand, followed by one of cobble-stone, which appeared to be immediately over a strong burning. This layer of stone was about five feet from the base. In the middle mound the layer of cobble-stone was about eight feet from the base; was in the center of the mound sixteen inches thick, and extended all over it, thinning out toward the edges. The cobble-stone, in all places, seemed to be put on immediately over the burning, none of the stones having the marks of fire, except those coming in contact with the burnt earth. The heat of the fire must have been intense, for the small stones, in places, were quite friable, and in places strongly marked with oxide of iron. This iron appearance led many to think that iron tools might have been placed there and rusted out.

"In the fourth mound the cobble stones were placed over burnings and on a level with the surrounding surface, and covered with creek sand. The blue clay in the northern mound must have been brought from a distance, there being none near like it.

"About three feet below the surrounding surface of the earth, and near the bottom of the large mound, the workmen, in digging the pit for the fly-wheel, found several pieces of bones and a part of the lower jaw of a human being with one tooth yet remaining in it. All the bones gave evidence of great age, and were in small pieces.

"The cobble-stone layers in these mounds and the post holes are unusual features. Could the latter have been for a frame work, from which to suspend victims for sacrifice?

"Surrounding this entire group of mounds was a cobble-stone way about eight feet wide. This is yet plainly to be seen north of the railroad, but the remainder has been destroyed. This oblong circle of stone must have been one hundred yards in its north and south diameter, and sixty-six yards east and west. Within sight of this group of mounds were originally about one dozen. Many of these have been destroyed. The digging of the pit for the fly-wheel revealed the lower portion of this mound better than examination heretofore made, and showed plainly that human beings had been buried at least four feet beneath the surrounding surface of the earth.



"During the excavating process the place was visited by many citizens and gentlemen from a distance, and much interest taken.

"The greater portion of these mounds being composed of sand and loam, may account for the paucity of bones found in them. The best preserved skeletons are found where the ground is mostly clay.

"It was observed by the early settlers that the Indians buried their dead in and about these mounds; but these burials were thought to be easily distinguishable from those of the Mound Builders.

"In 1827, while digging the Ohio canal, a small mound was dug out where the second lock now stands. Many human bones were found similar to those in the group above mentioned.

"Several skeletons were found buried near these mounds, which were, no doubt, those of Indians, the bones indicating no great age, and having copper instruments buried with them. Near one was found two copper quivers for arrows, and a large shell, which had apparently been used as a drinking cup. Another small skeleton had by its side a quiver for arrows and a copper hatchet, with beads and other trinkets. These Indians and Mound Builders appeared to have two things in common: one is the copper implements, and the other the sheets of mica. This latter is found in their mounds and mixed with their crockery. The small Indian skeleton referred to above was partly covered with mica, some of it adhering to the bones. Another skeleton was found covered with large sheets of mica; at least half a peck of mica, with the bones, were brought to town. This, at the time, was supposed to be the remains of an Indian. All the copper yet found in the mounds in this region has been native, unsmelted.

"According to some antiquarians these mounds would be called sacrificial or altar mounds, but the truth is that most, if not all, in this vicinity, are of a similar character, and might, with the same propriety, be called sacrificial, for, as a general thing, a skeleton, or sometimes two or three, side by side, are found, covered with earth, then evidence of fire, then another skeleton covered in the same way, and so on; but these skeletons and evidences of fire do not extend regularly over the mound. Sometimes a skeleton and a burning will be found only on one side, and then again on the other, at a different elevation; but almost always in every mound is found one grand burning extending all over the mound, as if there had been a grand ceremony for the benefit of all those buried beneath. In the large mound above mentioned there were two of these general burnings. Sometimes human bones are found with the marks of fire, indicating the probability of human sacrifice."

ANTIQUITIES OF THE MISSOURI BLUFFS.

Read before the Academy of Science, Des Moines, Iowa.

BY S. V. PROUDFIT.

Southwestern Iowa has received but little attention from resident archæologists; and so far as I am able to learn, no systematic investigation of its antiquities has ever been made. The field presents many attractions, and will, I believe, yield a valuable return for exploration.

The Missouri Bluffs, which skirt the old flood plain of the river on either side, enclose a valley varying in width from six to ten miles. Rising above the valley at times to a height of two hundred and fifty feet, and running back in forms quaint and fanciful, full of sudden turns and surprises, stand the long chain of hills called "The Bluffs."

Here the prehistoric man reared his mounds and made his home.

The Missouri Bottom was then a series of lakes, ponds, and sloughs. From his home on the hilltop, the ancient dweller in the land could see many miles up and down the valley, and far across the marshy plain where lay the Nebraska shore. Fish and aquatic fowl were in abundance at his very door, and if he cared to cultivate the soil there was none more fertile than his in all the world.

The composition of the bluffs, known generally as "Bluff Deposit" or Loess, possesses to a wonderful degree the power to resist the effects of the weather. A perpendicular exposure will stand for years unchanged by rains and frosts. This is an important fact to keep in mind, when the age of earthworks composed of this material is under consideration.

For the greater part, the former occupants of this portion of the State selected their places of abode on the line of hills that face the river.

Running along the western crest of the bluffs, and at all times adhering to the main line, is an ancient "trail." I have verified this at many points, following the trail sometimes for several miles. In places it is marked as a pathway, in depth from one to two and three feet. In others it is worn by the water into deep hollows and gulches, but it always preserves the same direction.

It is true that many "finds" indicate that this region was peopled at an age when the bluffs were in the process of formation, but the difficulty of drawing the line of demarkation between the ancient and the very ancient, when both periods

are comparatively unknown, has led me to call attention at the outset to this old roadway over the hills.

In general terms, there are but two forms of earthworks common to Southwestern Iowa, the mound and the "lodge." The former, a simple, conical pile of earth, varying in height from two feet to fifteen, and in breadth, from twenty to one hundred feet or more. "Lodge" is a term I have used for a form of earthwork that is more frequently met with by the explorer than the mound. A circular excavation was made, in width, from twenty to sixty feet, the soil as removed being piled up around the outer edge of the circle, until the wall thus formed, measuring from the bottom of the pit, must have been eight or ten feet in height. The basis of this estimate will be seen hereafter. At the present day, the lodge shows a slight elevation at the outer edge, above the surrounding surface, and the average depth is perhaps four feet.

That these lodges are very ancient is evidenced by many things. If it is a conceded fact, that the Red Man was not a Mound Builder, then it must be admitted also, that the lodges were not the work of the Indian. I have yet to find a mound unaccompanied by lodges. That mounds should occasionally be found in the near vicinity of lodges would prove nothing, perhaps, more than that the location had been thought desirable by people of different habits, living at periods far apart. But that mounds should never be found without the lodges would prove that they were the work of one people.

In some instances trees of considerable size have formerly grown inside of the lodge, the stumps of which give evidence that carry the history of the lodge back at least two hundred years.

Exploration of the lodges will show that the original floor has been covered by an accumulation of soil, from a foot and a half to four feet in depth. Some allowance must be made for the earth that would wash down from the inside of the walls surrounding the lodge; also the effect of dust storms. But when the depth of soil overlying the inside of the lodge is but little greater than that just outside of the lodge, and the average in a large number obtained, a fair basis for estimate is given.

At present writing I have made but a partial exploration of this county, Mills, but I have located during the past year the situation of forty-five lodges, and there are doubtless many more that will be yet found.

Lodges are usually found scattered along on a "divide" following the windings of the hills, and at times running down the final slope into the valley, but in the latter instance, a southern exposure is always selected.

A single lodge is the exception—a group the rule.

One mile west of Glenwood there is a series of lodges, seven in number, arranged on a crescent-shaped "divide" extending for a distance of about three-fourths of a mile. Near the center of the line is a mound ten feet in high and seventy feet in its greatest length. This cluster of earthworks I shall call the "Tipton Village," it being located partly on the farm of Mr. T. D. Tipton.

North of Glenwood twelve miles, on the edge of the Missouri Bluffs, and facing the bottom, is a cluster of lodges known as the "Allis Village."

On the Fair Ground just south of Glenwood, is another group, also one within the city limits.

North of Glenwood five miles, on the Glenwood and St. Mary's road, is a mound with several lodges.

Four miles north of Pacific city is a very large mound and one lodge.

Seven miles northwest of Glenwood, at the head of "Indian Hollow," there is a group of earthworks, one lodge and three small mounds.

East of Glenwood eight miles, on Silver Creek, are several mounds, but they seem to differ materially in construction from those of the Bluffs, as will be seen from notes of exploration made.


Mr. Seth Dean, county surveyor, being equally interested with me in preserving a record of our investigations, is locating accurately upon a map of the county the situations of all earthworks found by us. When we have completed our work we will be in possession of the facts necessary to a study of the system adopted by the Unknown in the location of their habitations and other earthworks. With the same object in view we are making topographical sketches of many of the mounds and their surroundings.

We have explored several lodges and mounds, and in no instance has our labor been unrewarded. At present, however, our work is so incomplete that it only hints at the results we hope to see.

Leaving the study of these lodges, which carry with them the fascination of a new discovery, I will pass to an examination of other earthworks, that yet remain to testify of the habits and life of the people who left these well-nigh imperishable monuments of their existence. In November of 1879, Mr. Dean and myself opened the mound heretofore described in connection with the "Tipton Village." This mound had been disturbed before we made our exploration; but by means of careful inquiry among parties that witnessed the former opening, together

with what we found ourselves, we have been able to ascertain to our satisfaction the construction of the mound. We sunk a shaft four feet wide, by seven in length and nine in depth, as near the center of the mound as possible. Eight feet below the surface we found a layer of rough limestone, overlying which was a very thin layer of fine ashes. In the sides of the shaft, at corresponding heights, were other stones of similar character to those at the bottom. The stone was filled with the minute fossil, *Fusulina Cylindrica*. The nearest natural exposure of limestone containing this shell is at Plattsmouth, Neb., about eight miles distant from the mound. Former explorations of the mound resulted in finding several skeletons, buried at a depth of about five feet, and under a course of stone. We could not learn whether the bodies were buried at full length or otherwise.

The mound was made of the soil surrounding, and is remarkably free from flint chips and charcoal, which might indicate that it was not long in building. It was built on the surface of the ground after laying down a course of stone, and when raised to the height of six feet, another layer of stone was spread over the mound and covered with four feet of earth. Standing back from the outer line of bluffs, perhaps a half-mile, and upon one of the highest natural elevations within the county, this mound occupies a singularly commanding situation. Every lodge composing the group is within view. To the north, south and west lies the Missouri bottom and the Nebraska shore. Every ravine and approach to the village would be under the eye of the watcher on the mound. So bold and full is the view, that the conclusion is irresistible that its builders designed it for other use than merely to mark the burial place of their dead; and its central location in the group of lodges, that it was the joint work of the community, and a point of common interest. We partially explored two lodges of this group, cutting trenches from the inside of the circle across the center, and to a distance of six feet outside of the lodge. In one we found the black soil lying three and a half feet deep over the old floor of the lodge, and in the other two feet. At the bottom of the lodges were broken pottery, charcoal, a few bits of flint, burnt earth and ashes. Where the trench crossed the center of the lodge last opened, we found a conical heap of burnt earth, upon which was sitting a large vessel of pottery. The thrust of the spade that revealed the vessel destroyed it completely. Here then was the fire-place, about which once had gathered a home circle at the close of the day's toil; for these people were no idlers, as the great mound in the center of their village well attests. But the watcher at the mound slept, and the enemy came upon the town unawares. The vessel over the fire tells a story of surprise—of



a sudden flight—or perhaps more sudden death to the dwellers within the lodge.

Three miles north of Pacific City, and four miles northwest of the Tipton mound, and a short distance back from the outer line of bluffs, on the summit of a high ridge, which here takes the form of a "divide," stands the largest mound that it has been my fortune to find. It is fully fifteen feet in height, seventy in width and one hundred feet in length. Mr. W. L. Bass, of Randolph, Ia., and Mr. C. W. Lufkin, of Glenwood, together with myself, made a slight examination of this mound. We dug a square pit, at the point determined as the center, six by eight feet square, and twelve feet in depth. The mound was built of surface soil, the same color of earth being found from the top to the bottom of the shaft. At intervals, scattered through the mound, were small chips of flint, pieces of charcoal and ashes. The earth composing the body of the mound was excessively hard, so that a mattock was necessary in digging; it was like digging in a well-traveled road, and this compactness of the earth was uniform. The mound is covered with small trees and undergrowth, which, added to the hardness of the soil, made the excavation slow work. At the depth of twelve feet we sunk a smaller shaft three feet. The exploration was very unsatisfactory, for want of time to properly examine so large a mound; but I intend to cut a trench through this mound next summer, and deepen the main shaft at least four feet. About one hundred yards southwest of the mound is a large lodge, and it is my opinion that other earthworks may yet be found in the immediate vicinity. This mound commands an extensive view of the Missouri bottom and the surrounding country, the location being much the same as that of the Tipton mound. The mounds at the head of Indian Hollow, three in number, are small when compared with those before described. There is one lodge with the mounds. The situation is at the head of a precipitous defile, running back from the western face of the bluffs. The same commanding prospect is here again noticeable. This group of earthworks is four miles directly north of the large mound. I anticipate a grand treat at the "spring opening" of these mounds, which is now in contemplation. From what I have observed in the bluffs on the Iowa side of the river, and have been informed in respect to those of Nebraska, I feel justified in concluding that the location of earthworks among the bluffs was in accordance with a widely known and carefully devised plan, and will call attention to the following reasons for that conclusion:

First. The association of mounds and lodges which has been shown to exist.

Second. The selection of sites for mounds at such points as give the best possible view of the surrounding country.

Third. The location of the mounds with reference to a possible system of signal stations. I do not wish to say that such a system can be shown, but that some evidence of such fact appears. Before reaching a conclusion on this point, a thorough examination of the bluffs on both sides of the river will be necessary, together with a general study of the topography of the country, and comparison of the relative heights and distances between the various mounds composing the system.

Fourth. The mounds are not built on the outer line of the bluffs, but a short distance back of the same, and on "divides." The outer line is much broken, and as irregular in its form as the drifts of snow piled up by a winter's storm; and mounds built here would be comparatively inaccessible. But a short distance back of the outer line, the bluffs, while still maintaining a height equal to, and in some instances greater than, those immediately adjoining the plain, take the form of "divides." And here the mounds are located, as if upon nature's highway over the rugged hills. So I am convinced that the people who built the mounds lived in the lodges; that they maintained a system of communication between the various communities; that if not of the same family, their habits of life were similar, and their interests were in common.

Some slight investigation of the Silver Creek mounds has been made, but of so superficial a character that I do not feel competent to express an opinion as to their place among earthworks. One mound was opened at the center by a pit seven feet in depth. We found great quantities of red burnt earth scattered through the mound, with here and there an occasional lump of black earth, that also seemed to have been subjected to heat; this, with a few fragments of charcoal, comprised the contents of the mound. The Silver Creek mounds are but slight elevations, and might easily be passed without notice. The situation is a high ridge on the eastern side of the creek, near "Lewis Mill," overlooking Silver Creek Valley. I have not found any pottery or flint chips in the vicinity of these mounds, and lodges do not accompany them. Quite a number of Indian graves are found scattered over the hills close by, and "corn-pits" were formerly found here by the early settlers. All of which tends to mark the location of an Indian village; still, it is quite possible that the mounds have no connection with the other remains, and I prefer to consider the matter unsettled, until such time as a careful exploration may be made of the mounds and their surroundings.

One by one the bluffs of Western Iowa are giving up the imprisoned fragments of history they have so long guarded. As the hand of civilization levels the mighty hills, it brings to light here and there a stray bit of former life. A life that has left no trace, except in the mounds that dot the landscape, and the scraps of flint and pottery that mark the ancient dwelling place. Scarcely is there an excavation of any importance made, that does not result in some find that testifies of man's presence amid scenes that transpired when the bluffs were the shifting shores of an inland sea.

The grooved and ungrooved celt, in all its diversity of form, size and material, is found in the neighborhood of the mounds and lodges by the explorer, and turned up by the plow in cultivated fields.

A "turtle back" celt was found in the Fair Ground lodges, near Glenwood. Mr. Dean has in his collection a similar implement, found on the bluffs five miles north of Pacific City. Both of these implements are very old, as evidenced by the weather marks they bear. A large grooved celt of unique form has been found in Taylor county, Iowa, and others also were found near Glenwood. Arrow-heads, scrapers and knives of flint are frequently found about the lodges and elsewhere.

I have also a part of a rough sandstone implement from the "Allis" lodges. It is evidently broken at about the middle. When this was complete, I think it formed one-half of a pair of "slick stones," which were used by placing the flat sides together and grasping the pair in one hand, enclosing inside the pair the shaft of an arrow, which being rapidly drawn back and forth, was soon reduced to a uniform size and polish. I am confirmed in this opinion by a specimen in the collection at the State University of Lincoln, Neb., which is a perfect half of such a pair of slick stones, and of the same material.

The pottery of this section is abundant, though in a very fragmentary condition, in the immediate neighborhood of the lodges. It is of a rude type, made of clay, and tempered with pounded stone, and sun-dried. Considerable attention was given to the ornamentation of their pottery; curved lines, indentations and checker-work cover nearly one-half the fragments found. Other fragments have "cob marks" on the outer surface, and some show what may be the marks of wicker-work, once forming the model inside of which the vessel was made. Where "cob marked," or with marks of wicker-work, no attempt at ornamentation seems to have been made, except occasional indentations about the upper edge of the vessel.

The Fair Ground lodges are situated a short distance north of Keg Creek, and west of a small stream that here empties into the

creek. On the west bank of this little stream I found a place where pottery had been made. There was a great quantity of pottery in fragments, and amongst it pieces of stone, which when compared, under a glass, with the pulverized stone used in tempering the pottery, proved to be the same.

I found this summer, at the foot of the bluffs, one mile above the mouth of Indian Hollow, in this county, a small flint scraper, the tip of the implement was just visible in the face of a perpendicular exposure, and below the surface six feet. It was undoubtedly a worked flint implement.

The contour of the bluff was such that no theory involving a recent change in its topography could be entertained. From the crest of the bluff down to the upper edge of the exposure, was a gradual slope, the inclination of which was not over thirty degrees. Above the exposure, covering the sides of the bluff, were growing trees.

If this scraper was covered by a "landside," every evidence of such fact had been obliterated. When we remember how slowly changes are effected in the hills built of the bluff deposit, the date of its burial is sufficiently distant to startle the student of antiquity.

Now, it is a fact that these scrapers are common to this vicinity; and they are frequently found in the neighborhood of lodges and turned up by the plow in cultivated fields, all of which lends a delightful confusion of dates, or possible dates, to the existence of the people who manufactured this style of implement. The one referred to is a beautiful pink and white flint. The lines of fracture are well worn away, either by use or weather.

Dr. Stillman, of Council Bluffs, has in his possession two grooved axes, one of which was taken out of the bluff deposit eight feet below the surface, and one twelve feet; both of which were found near Council Bluffs.

In these instances, the implements found were not accompanied by other relics, nor was there any evidence that the soil had ever been disturbed since the original deposit.

In 1876, at the railroad cut on the C., B. & Q. line, two miles south of Glenwood, there was found the greater portion of a skeleton of the American Mammoth—*E. Americanus*. The bones were found in the outer line of bluffs and about twelve feet below the surface, and at the bottom of the Loess. They were exhumed by Prof. J. E. Todd, of Tabor College, and are now in the collection belonging to that institution.

At Malvern, nine miles east of Glenwood, and fifteen miles east of the Missouri River, remains of the mammoth have also



been found. In this instance, as in the former, the bones were found at the bottom of the Loess.

In the summer of 1879, Dr. Stillman made a very interesting discovery, at a point one mile and a half north of Council Bluffs, on the Mynster Springs road, where a "cut" had been made for the passage of the road at the foot of the bluffs.

His attention was attracted by ashes on the face of the exposure, and after a slight examination, he was satisfied that the place deserved a thorough exploration.

In company with Mr. Burke and Mr. Jacquemin, of Council Bluffs, he opened the face of the bluff and found what might well be called a "kitchen heap." The opening made was not over three feet across, and extended into the bluff about four feet, and was five feet below the upper surface of the soil. In this small excavation they found a large fragment of an elk's antler; a shoulder blade, fashioned into a rude implement, showing marks of work and considerable use; fragments of bone; a pipe; a piece of deer's antler four and a half inches in length, polished at one end, as though used for rubbing; several lint scrapers; fragments of pottery; a charred corn cob; several large muscle shells; a large quantity of fish bones; several large vertebral joints; small boulders, showing marks of fire; a stone "paint" pot, or mortar. This last was a rough, red quartzite, with a hollow in one side, in which was still remaining particles and marks of the paint when found.

The location of this find should not be passed without consideration. It was situated on the western face of the bluff, about forty feet above the level of the Missouri bottom, and but a short distance from a lake that touches the foot of the bluffs, just north of this point. Above the "find" the bluff rises to a height of one hundred and fifty feet, with a gradual slope to the west. Just back of the upper edge of the face of the exposure, here is a slight depression in the surface of the ground, which may mark the location of a lodge, but no investigation has yet been made.

South of this point, toward the city, perhaps a half mile, here is an exposure, caused by cutting down the bluff for a brick-yard. The location is at the mouth of a hollow or wide ravine, which extends back into the hills for some distance. Here are found, under the bluff deposit from six to eight feet, ash heaps of considerable size, which abound in relics of bones, muscle shells and pottery.

I have already sent the Academy a photograph of a vessel of pottery now in my collection. The place where this was found gives the specimen a peculiar value. A low hill one mile east of Glenwood, was cut down at one side in grading a road,

and here the vessel was found, under six feet of undisturbed bluff deposit. While no other relics were found by the workmen, I have since taken out of the exposure pieces of burnt clay and small bits of pottery. There are no earthworks near this find, and I have been much puzzled to account for the placing of these relics.

In the foregoing I have tried to present in a group some of the revelations made in exploring the body of the bluffs. Each of these finds were accidental burials, but they form one of the links in a long chain of evidence, that connects the known with the unknown. In this way we have preserved for us a few facts concerning a life that reaches far back into the misty regions of conjecture.

GLENWOOD, Iowa, Dec. 27, 1880.


PREHISTORIC MAN IN EUROPE—A SUMMARY.

BY L. P. GRATACAP.

At the close of the Tertiary Age, which ends the long series of geological epochs previous to the Quarternary, the landscape of Europe had, in the main, assumed its modern appearance. The middle era of this age—the Miocene—was characterized by tropical plants, a varied and imposing fauna, and a genial climate, so extended as to nourish forests of beeches, maples, walnuts, poplars and magnolias in Greenland and Spitzbergen, while an exotic vegetation hid the exuberant valleys of England. For some time during the succeeding era, the Pliocene, these equable conditions were maintained, but a constantly lowering temperature effected noticeable changes in plant and animal life. The great pachyderms of the Miocene disappeared, and in their stead the Siberian mammoth and hairy rhinoceros roamed over the snow-bound continent. The redwood and cinnamon and evergreen oak, alive in England in the Miocene, were replaced by arctic and boreal forms, the creeping willow and dwarf birch. As the Pliocene passed away, the cold increased, mountain chains were buried beneath seas of ice, trains of glaciers invaded and furrowed the lowlands of the Northern Hemisphere, and a universal winter of the severest rigidity held life dormant, or restricted it within a narrow and equatorial belt. Moraines of immense size were piled up in hills over the land, rocks were transported miles from their natural home, and icebergs surrounded the coasts in frigid fleets. A great subsidence accompanied these climatic changes, water rolling billows-high over the plains of Europe, and afterwards, with the slow dawn

of milder conditions, a protracted emergence followed, memorialized now by inland beaches and river terraces. In this re-elevation, the drainage of waters from melting glaciers and overflowing rivers sculptured the country with wide and divergent channels, rearranged the debris in hills of sand and gravel, and mapped the surface with those graceful inequalities which give to it its pictorial value. The movement continued until areas were exposed which are now the floors of oceans; England was joined to Europe, the Germanic flora occupied the shallow beach which is filled with the North Sea, and continental animals passed unimpeded into the British Islands. The researches of Forbes would prove that Spain was connected with the English territory, and the flora of the latter emigrated southward, becoming imprisoned on the peninsula, when, by a second subsidence, these hastily formed unions were dissolved. Before such a separation occurs, Man crosses the field of vision, a sentient, sensible and inventive creature.

The first infallible proofs of man's presence on the continent of Europe, as far as has yet been ascertained, was along the banks and in the alluvial valley of the Somme. This insignificant river has become famous, through the multiplied indications it offers of man's activity along its banks, in days when the mammoth, the hippopotamus, rhinoceros, and later, the reindeer, waded in its swollen waters. A narrow and shallow river, it rises in the highlands of eastern Picardie, and makes its way eastward to the English channel, stealing in a sinuous thread between low levels where half recovered peat lands grow verdant with the gardens of the humble peasantry. Low-swelling hills continue their undulations along its course, their bases passing beneath the morasses, bogs, or fields which form the narrow edging of the river, and their crests crowned by isolated groups of trees, or a neglected quarry. The rounded hills, 200 to 300 feet high, belong to the cretaceous period, and hold in their depressions pockets of tertiary formation, while alluvial mould, a brick-red earth, thinly covers their scraped summits. Along the river, never at heights over 100 feet, stretched up beyond the limits of the peat-bogs, swamps, or sandy shores, and lying upon the sloping sides of the chalk hills, are found beds of gravel, sand, calcareous mould and marl, overlain by a crust of clay or rubble. These beds represent the denudation of the tertiary land, which has been overturned, undermined and reassorted by the floods of the river, when, over a wider basin, its margins extended up the hillsides. Where terraces or steps exist they indicate successive beaches, successive recessions of the river in its shrinkage to narrower and deeper troughs. They are witnesses of the river's ancient oscillations, frequently recording alternate invasions of the



ocean, and corresponding recoveries from its encroachments, as marine or fluviatile shells are mingled in their layers. The order of events in the river's geological history was something as follows: The valley, first excavated to almost its present dimensions, was flooded over with the shifting debris from piles of gravel, sand, stones and earth, already accumulating along its banks. The stream swung right and left in its descent to the sea, here undermining cliffs of gravel and rearranging their prostrate debris, there deserting shallowing basins, in which collected slow accumulations of silt, from stagnant stretches, entombing the molluscous fauna in its muds, or the unwary quadrupeds that sought the borders of the river. The ocean would at times force its tides up the stream, and wide-spread deltas would form at the entrance of every little tributary, while marine deposits would mingle salt-water shells with the fresh-water shells that preceded it. By the slow shrinkage of the river and a less rapid current at the inland estuaries, beds of fine loam and mud would settle over the primitive deposit and form a secondary stratum of great local diversity, while over that the last surface was formed from land floods, a thin and variable skim of top soil. The heaps of gravel disappear in places, and are seldom found toward the sea-coast. The river here widens to its mouth, the land grows level, and the rounded hills sink to the low and retreating shores. In various spots removed from the river, deep and extensive pockets of sand and rolled flint, as at St. Acheul, occur where large quarries are excavated in the drift. Where these are found, they mark the past flood limits of the Somme. When swollen, it reached up the arms of valleys, and a network of rivers, converging towards this larger stream, encircled the abraded hill-tops. The last topographical feature to notice in such a brief survey of the physical characteristics of this classic spot, is the peat lands. Thick, broad morasses, shaking bogs and consolidated peats line the river for miles, reaching up beyond Amiens, and stretching to the sea. In heavy storms, occasional trunks of oaks, hazel, fir, and walnut, are thrown up upon the beach, enclosed in indurated peat, as if the peat land extended beyond the present shore, along a submarine channel, which once, upon a higher level, conducted the Somme to a more westerly delta. This peat is thirty feet deep, growing by scarcely measurable increments (according to Boucher de Perthes, 1.2 English inches in 100 years), along the saturated lands on either side, fed by repeated overflows, and nourished by the drainage of the banks beyond. In this, remains of living mammalia, works of art of the Roman period, and, far down towards the gravel bed underneath, polished implements are found. It is posterior in its forma-

tion to the gravel beds on either side, to the implements they yield, and more significantly, to that primitive life whose mysterious age and origin impart to the river a weird and wonderful fascination.

Boucher de Perthes, though preceded in observations by Dr. Ravin and Dr. Picard, first systematically examined the gravels of the Somme peat lands and loam beds, and unearthed the remarkable series of implements which furnished direct evidence of man's contemporaneity with the mammoth, the rhinoceros, the cave tiger, the cave bear, the urus, or wild cow, and the uncouth European bison. These implements, found thirty or forty feet beneath the surface, are rudely chipped from flints, such as occur throughout the subadjacent chalk. In most instances they are deftly coated with a white *patin*, a scarcely perceptible film, where the soluble silica has been removed, and the finely granulated surface disperses, the light, forming a white layer. They are often delicately penetrated by dendritic markings, so as to dispel all doubts as to their authenticity. The inventory of these paleolithic or unpolished flint tools would be meager in variety of forms, as one implement doubtless served their simple needs in different capacities, and a strong hatchet or adze would indifferently discharge the duties of a battle-axe, a pick, a bludgeon, an excavator or a hoe. They may be conveniently classed, as: *First*, oval flints, 2 to 9 in. long, chipped down to sharp and ragged edge, and continuous or pointed, faced on both sides, and known as the St. Acheul ax. *Second*, pointed and heavy implements, 6 to 8 in. long, with a rude butt, which may have been seized by the hand or fastened by thongs in a wooden or bone handle. *Third*, rare forms, 12 in. long, 3 in. wide, which may have served as *casse-tetes*, or even spades or hoes, for rude diggings. *Fourth*, scrapers, used in the preparation of hides, or for cleaning bones. *Fifth*, curious pieces which simulate the forms of animals, men's faces, birds and fishes, and over which M. Boucher de Perthes has expended an elaborate amount of eloquent surmises, hinting at their mystical office in religious services, or more oddly, as the letters of a concrete alphabet or language (*Antiquités Celtiques*). *Sixth*, knives. *Seventh*, beads.

These flints are colored according to the nature of their matrix. Ochreous argillaceous gravels produce yellow and buff shades, some white, with crusts of carbonate of lime, or with the lustrous patin or bluish gray, in less ferruginous deposits, and brown in others, while all have a characteristic gloss and polish not seen on the freshly fractured counterfeits.

With these flints are found bones of mammals. These are the cave bear, *ursus spelæus*, cave lion, *felis spelæa*, *hyæna*

spelæa, the mammoth, *elephas primigenis*, hairy rhinoceros, *rhinoceros tichorinus*, wild horse, *equus caballus*, the urus, *bos primogenius*, Irish deer, *megaceras Hibernicus*, the auroch, *bison Europæus*, and the reindeer, *cervus tarandus*. The cave bear was a powerful and tremendous creature, becoming abundant in central Europe at the commencement of the quarternary. Although regarded as the progenitor of the brown bear, its remains are found only in the earliest deposits of that period, and associated only with the oldest implements wherever it occurs with human remains. The mammoth had an extensive range. The northern islands of Siberia seem built up of its crowded bones, while its traces are found as far south as Rome, in Italy. M. Gaudry has shown it from the miocene of Attica, in Greece, and, in fact, it belongs to the tertiary fauna of Northern Asia. The hairy rhinoceros, with two or three allied species, is found in Siberia, in England, and Central Europe, but never south of the Alps or Appenines. The urus, the probable ancestor of the wild cattle of Chillingham, occurs over a wide area, and comparatively modern references, as in Caesar, and the Niebelungen Lied, prove its recent existence. The auroch, or European bison, still maintains an artificially prolonged reign under the protection of the Czar of Russia. It occurs extensively in prehistoric remains, and Roman historians refer to its presence amid the German forests. The reindeer was, at the time under discussion, beginning his career. It multiplied, and its bones are so prevalent as to typify one division of the paleolithic period. With the recession of the cold zone, it followed the retreating ice to the inhospitable borders of the pole.

More than the mention of the other mammalia is not permitted in our short compass, with an exceptional allusion to the musk-ox, *ovibos moschatus*. This singular bovine is now found only in the most northern and inhospitable confines of North America, wandering in herds north of 67° N. latitude, and west of the Melville Islands. It has no tail, as if nature, only solicitous to bestow that appendage where and when useful, recognizing its lonely habitat, free from all winged torments, abolished that unserviceable member. Most of the mammals are extinct, and though by itself the disappearance of an animal, a frequent occurrence in historic periods, and of very common significance in local records, is no conclusive evidence of an extravagant antiquity. The absolute annihilation of a number, coupled with changed climatic conditions, and the absence of the bivalve, *cyrena fluminalis*, from the present marine fauna of that continent, are substantial proofs of man's antiquity.

Corroboration of these discoveries was soon followed by notable explorations in the valley of the Seine, and through the

river gravels of England. In the valley of the Seine, and in the adjoining basin of the Oise, in river gravel answering to that of the Somme, in 1860-62, implements were found, accompanied by bones of *E. primigenius*, *E. antiquus*, *rhinoceros tichorinus*, *hippopotamus major*, and *ovibos maschatus*. In England, through the vast alluvial deposit, fifty miles long, of the valley of the Thames, incontestable proofs occur of man's presence at a time when England was yet united to Europe, and the savage beasts who then infested the forests and plains of France, also moved along the river slopes of England; when the Somme may have completed its course through English soil, and the Isle of Wight had not yet been severed from its parent land. Flint implements have been found in the gravelly beds capping the cliffs of Kent in the valley of the Ouse, near Bedford, where they appear distinctly post-glacial, in Suffolk, and in the South of Hampshire.

That man existed in a barbarous and absolutely primitive condition in post-glacial times, when an extinct and an anomalous fauna, formed from southern wanderers, *H. major*, *F. spelaea*, &c., and northern immigrants, *E. primigenius*, *O. maschatus*, &c., possessed the land; when England was a part of the continent, the German Ocean dry land, and the Thames a tributary of the Rhine, seems now universally conceded. He was a hunter, a *carnivore*, probably, to some extent, a cannibal. He was, we may believe, short, robust, wary, cruel, superstitious, and troglodytal. He lived in caves; they afforded him natural shelters against the violence of storms and the incursions of enemies. We know little or nothing of his anatomical peculiarities. Human remains are so infrequent as to be treated with judicious caution, and authenticated instances are not numerous enough to permit trustworthy generalizations. He seems to have been long-headed—dolichocephalic.


Whether we may claim a still older origin for man, and place him amidst the inter-glacial periods, with Skertchly and Geikie, or even remove him, by innumerable centuries, to the miocene, as French writers do, are doubtful, strange and extraordinary surmises, certainly not yet accredited by conservative authors, and certainly not to be tolerated until plainly proven.

We have said man was, in this age troglodytal, and the series of discoveries we shall rapidly review illustrates its application. In the Mountain Limestone (carboniferous) region of Belgium, along the valley of the Meuse, of the Lesse and of the Düssel, in similar tracts of Southern France in cretaceous beds, at Gibraltar, in England, Wales, Sicily, Africa and Italy, subterranean chambers are found. They look out from the sides of precipitous cliffs, occur as groups of caves and sometimes as

mere rock-shelters. Here man has left his implements, his bones and ornaments and the remnants of his savage meals, and they prove his contemporaneity with the huge mammals we have noticed. Dr. Schmerling, in 1833-4, examined over 40 caves near Liege, and painfully noted each curious or important find, watching with an unrewarded zeal each separate exhumation, as he stood in these bleak and unvisited recesses, his feet in chilling puddles of mud, and his head wet with the ceaseless drip of water from the roofs. His invaluable labors embodied in two large volumes, demonstrated the co-existence of human bones along with those of the cave bear, hyena, elephant, rhinoceros, etc., and where bones were wanting, worked flints supply their place. These caves in many instances are widened fissures, expanding into huge vaults, into which from surface cataclysms, through the enfiling seams, crevices and rock chimneys, debris of bones have been confusedly swept and buried intimately together, beneath a layer of stalagmite. The bones appeared all similarly withered, and whether human or animal, indicated their coeval origin. In the caves of this region were found those two famous skulls, the Engis and Neanderthal, the latter of which, from its degraded type, the thickening superciliary ridges, retreating forehead, and sloping occiput, suggestively strengthens the arguments for our Simian ancestry, while the former presumably of equal antiquity in the much quoted words of Huxley, "might have belonged to a philosopher or might have contained the thoughtless brains of a savage."

Along the banks of the Vezere River, a small stream in Southern France, for a distance of about ten miles, are gathered together a wonderful succession of stations where man has recorded a distinct advance in his ability to manufacture weapons, in their variety and their artistic value. These caves are in many instances only rock shelters where the rock has been excavated by frost and fallen away, leaving hoods and projecting covers. They are filled with traces of human occupation. Whether driven thither by the hostile attacks of invading tribes, inclemency of weather, or used as a refuge from a strong and inimicable fauna, they were habitually inhabited and their floors are now strewn with rejected parts of wild animals they pursued in the neighboring plains. Saws, awls, scrapers, spear heads, harpoons, hammers, knives and mortars, are found mingled with the bones of living and extinct mammals. But there has been shown by M. Lartet, Christy, and Paul Broca, a remarkable sequence of development connecting these various caves, and associating them with the shifting phases of the transitional ages which bridged the chasm between quarternary and modern times. The first

in time, used as a house for an early colony of these men, is the Moustier Cave. Here occur the Moustier lance-heads and the broad-backed choppers, probably used to split marrow bones whose succulent contents savage men prize. The mammoth was then beginning to disappear. Man was then older than when he ranged along the valley of the Somme. Cro-Magnon follows in an ascending series with more various instruments, less bulky and better made. The reindeer was beginning to predominate amidst the fauna as the mammoth and cave lion were slowly disappearing. Upper Laugerie and Gorge d'Enfer succeed, characterized by the exquisite flint weapons known as Solutré lances, and the uninterrupted prevalence of the reindeer. Lastly, we find at the Lower Langerie, the Eyzies, and the Madelaine, proofs of invention, manual dexterity, even pictorial tact that crown the slow stages of growth noticed in the other caves. Here occur carved and inscribed batons made from reindeer horn, and showing that animal in combat, in flight, or so ingeniously extended as to form a convenient handle, pieces upon which fish and stags are represented, while on a bit of the mammoth's tusk is found a serviceable picture of that strange creature. Barbed harpoons and arrows made from reindeer horn were in use, with finely smoothed needles, spoons, whistles, and hunting scorers. No polished implements occur amongst these caves, and the dog, another characteristic of later days, was not then domesticated, nor the sheep, goat or pig. The mammoth was disappearing while the horse and reindeer prevailed in increasing numbers. These prehistoric hunters were a tall and vigorous race, somewhat unusually endowed, occupying their dens all the year round, depending on the chase for their subsistence, free from the disgusting vice of cannibalism, and under the ameliorating influence of a milder climate gradually perfecting a low but softened barbarism. Some notion of their removal in time is gained, when we learn that the river bed of the Vezere has been elevated ninety feet by sediment since the occupation of the Moustier Cave, and that that elevation must have been completed before La Madelaine was deserted. The cave of Aurignac in Haute-Garonne, any detailed account of which is prohibited by the necessary brevity of this sketch, may have belonged to this era, as the animal bones found there comprise the species exhumed from the remains along the Vezere, though the utterly upset condition of its contents when inspected by savants, notably Lartet, forbid definite conclusions. If Lartet's surmises are correct, we have, in this celebrated instance, proof of a human burial attended with mortuary rites, and may also infer that flint knives with fragments of meat were deposited with the dead to nourish and assist them in the land of spirits whither they had gone.




The caves of Brixham, and Kent's Hole, in England, in Devonshire, whose exploration has been managed by distinguished English Archæologists, have yielded rude stone implements enclosed in stalagmite, and in the red earth beneath this flooring, bones of the rhinoceros, elephant, deer, bear, ox, horse, and teeth of the sabre-toothed tiger (*Machairodus latidens*). These remains belong to an earlier period than the caves of the Vezere.

Referred to the reindeer period, are the remains found at Bruniquel, by the Vicomte de Lastic, wherein marine shells occur as if its occupants had brought them from the coast, at Solutr  in France, where a perfect pit of bones is found—an osuary—yielding innumerable pieces of horses' bones, many hundred reindeer and some indications of a burial upon funeral piles and amidst the remnants of a demolished banquet. At several caves at Mentone, Italy, De Riv re has found well preserved human skeletons stained with iron and decorated with necklaces of shells. In Germany, at Schlussenreid and at Hohlefelds, cave implements are found and fossils of extinct animals. Reindeer bones appear in great numbers and their skulls, ingeniously cleaned of superfluous parts, formed drinking cups and vessels for a rude race, who had not divined the art of pottery. Bear jaws (*Ursus spel us*), modified into axes or picks, and horses' teeth pierced for suspension upon the person, occur in great numbers, while less prevalent are bones of the mammoth, cave lion, urus, musk ox, wolf, fox, antelope, and of the white swan, now a *rara avis* in Wurtemberg. Remains of mosses of an arctic type have been detected, a very direct testimony as to the rigor of the climate. Also caves in Poland have been searched, yielding bones of the reindeer, cave bear, arctic fox, and horse in abundance, but rarely those of the mammoth. Beneath the embattled front of Gibraltar, at various heights above the sea level, groups of subterranean chambers have been discovered, enlarged from fissures formed in the elevation of this limestone hill and eaten out by infiltrating streams, or as along its base excavated by the ceaseless gnawing of the waves. Here Captain Brome disinterred works of human manufacture, human bones and the remains of a diversified fauna. The skulls indicate Basque affinities, are dolichocephalic, and may be the priscan representatives of the present Kabyles of Africa.

All these well attested discoveries, each singly an unimpeachable argument, when considered together, in the uniformity of their general features, the consistent character of the geological evidence they afford, and the diverse and uninfluenced sources of their publication, compose a most powerful showing as to the great age of the human race, and indicate as well, already specialized ethnic characters, as though in that early time, in

whose dim light we insecurely discern the moving figures of men, races had already attained an individual existence, and the vicissitudes and dangers of tribal life had already begun. Two distinct stages of growth and social usages are identified with the predominance in the surrounding fauna of two distinct mammals, the mammoth and the reindeer, between which an intervening age formed a sort of zoological transition. We may conclude that the men of the Somme and of the Belgian Caves were a different people from the occupants of the valley of the Dordogne, and these again distinguished from those of the caves of Hohllefels and Schlussenried, possibly successively migrating hordes from various centres of colonization in the South and East, and so far separated in time of their European entrance, as to permit changes of climate and corresponding fluctuations in the scale of animal life. Possibly dispersed branches of one primal stock which appeared at the end of the Glacial Age, expanding into individualized areas on the amelioration of its arctic severity. Possibly as the glaciers retreated and the continental climate became less intemperate, the people—dolichocephalic—and possibly allied to the Eskimo, of the Somme, followed their receding steps north, and a new tide of men, tempted by the changed aspect of nature to visit new lands, wandered westward, encountering a fauna that was itself from similar causes in process of alteration.

Along the curved and island-locked shores of Denmark, facing the Baltic, and on the islands of Samsøe, Möen, Fünen and Seeland, heaps of shells raised up in long backs, two to ten feet deep and two hundred feet at the widest, and in some instances one thousand feet long, have been found, and were regarded as accumulations of the waves. But on examination, a large edible oyster, such as does not occur in this neighborhood at present, and nowhere of such large dimensions, cockles, periwinkles of a similarly large type, remains of the great auk now extinct, the capercailzie, a pheasant of Germany no longer current in Denmark, bones of the urus, stag, roe, wild boar, wolf, fox, lynx, wild cat, marten, hedge hog, otter, dog and seal, flint flakes, axes, scrapers, some polished instruments, awls, chisels of bone and horn, and fragments of pottery were found, and their human origin seemed demonstrated. They are refuse heaps of prehistoric men, kitchenmiddens—*Kjöhkenmöddings*—and mark the stations of a remote society at the very beginning of the neolithic age. The waves of the ocean probably washed in over the present isthmus of Jutland, and the Baltic was yet salt enough to support a flourishing molluscan life, now greatly dwarfed in its brackish waters, or excluded entirely, the capercailzie fed on pine buds in pine forests that have now ceased to grow there,



while the *alca impennis* yet maintained itself against the ravages of hunters not yet numerous enough to secure its extinction. A fauna allied to that of modern Europe had become established, with the exception of the urus, and the dog had formed his familiar alliance with men in their advancing civilization. They were a maritime people, hunting the seal, searching deep waters in hollowed logs for fish, using polished implements, and hence, in the opinion of archæologists, a people chronologically preceding the neolithic races whom we next meet, amongst whom, by only a slight advance, they would be rated, as we discover brief anticipations of their skill, whether gained by original invention or social contact.

Skulls problematically referred to the kitchenmiddens, are small, round, with retreating forehead, and prominent superciliary ridges, and with teeth apparently "closing vice-like over each other, not overlapping as ours." Steenstrup considers these heaps as the graves and refuse of fishermen, the *tumuli* we next inspect being the burial mounds of chiefs. None of these mounds occur on the western coast, and it seems probable that with the encroachment of the land on the Baltic on the east, the western coast lines became submerged, carrying with them the Kjöhkenmöddings, as has occurred in the case of shell heaps at Goose Island, Maine, and along the shores of New Brunswick, or else the people never settled there, seeking the shelter of less exposed beaches.

IDENTIFICATION OF DE SOTO'S BURIAL PLACE.

BY L. J. DU PRE.

Recently archæological researches have been prosecuted with unwonted zeal, even in the South. Poverty, just after the war between the States, interdicted the indulgence of tastes pecuniarily profitless, and until broken fortunes were somewhat repaired there were none devoted to curious inquiries to the direction of which THE AMERICAN ANTIQUARIAN addresses itself. Southern newspapers are accustomed to descant upon every remarkable physical fact that marks the country's surface, and now each uplifted earth-work or old burial place or wrecked nameless and forgotten city or stone fort is described with painstaking care, even by rustic editors. Two concurrent incidents referred to by a Florida publication impel me to advert to this subject, and tell what I have seen of traces of DeSoto's wanderings in the Gulf States.

It is stated in this Florida newspaper that artists, employed by the Government to finish tasks begun by Brumide, would adorn the interior of the dome of the capitol at Washington with a picture of the burial of DeSoto. The painstaking care with which DeSoto's remains were deposited in the body of a green tree hollowed out like an Indian canoe, the topographical peculiarities of the vicinage, the sinking of the heavily weighted coffin, the depth of the Mississippi and distance from the shore, the confluence near this spot of a smaller river from the west, are given with much accuracy of details by chroniclers accompanying DeSoto's expedition. Artists' pencils of every land, through more than three centuries have exhausted genius in portraying the supposed burial scene of the heroic adventurer, but the exact spot is not known.

Moscoso tells that DeSoto's burial place was at the base of precipitous hills, perhaps two hundred feet high. Here, at the water's edge, forges were provided, vessels built, arms repaired and horses shod, and here DeSoto was entombed. The Mississippi flows to-day perhaps thirty miles east of this spot. Its former channel, of DeSoto's time, is occupied by "Old Town Lake," and it is in this lake that the body of the Spaniard reposes. The name given the lake by Indians and then by white people is significant of facts to which I advert. The Spaniards built the "Old Town" left on the lake's western margin at the base of Crowley's Ridge, nine miles below Helena. Then the restive river, always moving east, changed its course and chose to run along the front of Gov. Alcorn's estates in Coahoma county, Mississippi. The depth of the lake is that of the river, less the thickness of soft sediment, and DeSoto's body, encoffined in a green tree, and weighted as it was and sunken in the bottom of the river, is to-day in the mud beneath the lake, and with proper appliances of wreckers' art might possibly be recovered and given a proper burial in the Congressional grave-yard at Washington or among dead kings at Madrid.

Twenty-three years ago I visited Old Town Lake with the late Gen. Pillow, who owned there, before the war, a magnificent plantation. Reading in the descriptions of DeSoto's burial place, and of the spot at which the Spaniards were encamped while building boats in which to reach Mexico, I was thoroughly satisfied that the lake had been the river, and that the spot described by those who accompanied DeSoto would have been necessarily identified by modern writers if the Mississippi had not been deflected, perhaps three hundred years ago, from its original channel. In view of these facts I am impelled to inquire whether it would not be well for artists, about to expend skill and toil upon a great picture to endure for centuries, to visit "Old Town

Lake," where hammer handles and gunstocks have been unearthed, and where burnt earth and charcoal heaped up by blacksmiths were then to be seen.

Capt. John Cowdon, President of the New Orleans and Barrataria Ship Channel Company, though forty years a navigator of the Mississippi, has visited the spot of which I tell as the burial place of DeSoto. He had read Theodore Irving's translations of recitals of facts and incidents made by those who accompanied DeSoto, and after life-long experience in wrecking sunken steamers on the Mississippi and its tributaries, asserted the opinion that DeSoto's unique coffin, with its contents undisturbed, still rests at the bottom of Old Town Lake. Why may not the task of its recovery be assigned him, and when it is achieved let him become sailing master of an expedition to explore that *terram incognitam* fifty miles wide and extending from Cairo twelve hundred miles to the sea. Of this vast tract of country, of the wonders it contains, of its priceless value to the world's civilization, because it might clothe the world, of its mounds, canals and *aguadas*, less is known than of the valley of the Niger. It is traversed by four railways, three and five hundred miles apart, and here and there, at remote distances from one another, common roadways, seeking the highest points, cross the swamp, and only illiterate hunters and fishermen have invaded the dense canebrakes or told of wonders of the lowlands, or of physical changes wrought by the terrible earthquakes of 1811-12.

When I first published the fact, just after the cessation of inter-state hostilities, that primeval dwellers in the lowlands of the Mississippi drained the swamps and actually prevented overflows by digging canals connecting the Mississippi with its lateral tributaries, the story was pronounced incredible. In the summer of 1861 I was with Bankhead's light battery, at Watkin's farm, not very far southwest of Cape Girardeau. Idle, and seeking excitement, I accompanied a scouting expedition to Cape Girardeau. Three reckless cavalrymen entered the place selling melons to unsuspecting German soldiery then occupying the pretty little Gallic city. We had not gone far south from Cape Girardeau, following a road near the banks of the Mississippi, when we were fired upon from a gunboat. Our course was instantly changed. We pursued an old road leading almost due west, along the northern bank of a little stream. It was soon observed that this road along the course of the stream was upheaved at least four feet, and that this elevation of the roadway, which crossed the drain at intervals of several miles, was surely artificial. We spent the second night after leaving Cape Girardeau perhaps twenty or twenty-five miles from the Mississippi. Our host was an aged farmer. I asked who dug the canal along

which we had been riding through the day. He said he had "been preaching the gospel in these parts nigh on to fifty year," but had never been able to find out. The "injuns" didn't know. They said red men never worked and never dug ditches or built mounds. Toil, except that of the chase, was ignoble, and mound builders and canal makers had disappeared and were forgotten when Indians came to find waterways across the swamp connecting the Mississippi with the St. Francis and White Rivers.

"Before the big shakes of 1811-12," said the old circuit rider, "and before this country between the Mississippi and the White and St. Francis was lifted up by the earthquakes, breaking the canals, the water, when the Mississippi began to rise, ran out of it through these canals into the smaller rivers." This superabundant water of the great river, drawn off by its tributaries, returned to it at Helena. Meanwhile the great volume of the flood, descending the comparatively direct channel of the Mississippi, had reached Vicksburg or Natchez. Overflows in this district of country were thus rendered impossible, except that those ancient people, when they proposed to enrich broad, cultivated districts, opened flood gates, and slowly submerging their fields found them covered, when the water disappeared, with that deposit of fine mud that comes down the Missouri and makes this valley the richest and most productive in the world. "If the river be walled in with levees," said the old man, "ten years will not have passed when this soil will not produce cotton or wheat or corn." Here was a lesson for that grand Mississippi river commission, always asking how not to accomplish anything. These canals, you will observe, not only made destructive floods impossible, but perpetuated and restored forever the matchless fecundity of this great valley. Hardly less valuable were these transverse waterways in transferring enormous crops produced by dense populations to cities which evidently existed ages ago on the sites of great commercial marts of our time. DeSoto discovered the dwelling place of Indian kings at Memphis, where there are great mounds, and Choteau found great mounds, as did the patriarchs of Cincinnati and Louisville at those points, designating the spot on which modern St. Louis stands as the proper site for an imperial capital.

I was going to say that when I first published these facts affecting the remains of Mound Builders' toil and genius fifteen years ago, nobody gave credence. But book makers now tell the old story, and the learned world opens its eyes in silent amazement. When I told of the existence of artificial and paved lakes in the lowlands opposite Memphis, venerable sages who sat around the hall of the Ohio building, at the Philadelphia world's fair

in 1876, were wholly incredulous. When I said that a series of lofty mounds, from a point ten or twelve miles below Little Rock, had been erected at such intervals that Mound Builders communicated with one another by signal fires, such as once blazed on the watch towers of Belgium, between points one hundred and thirty miles apart, the venerable sages were wholly befogged. They had not heard of the canals or of the *aguadas* or of that greatest mound on the continent a few miles below Little Rock. Forty miles west of Memphis, on the western bank of the St. Francis are the remains of a great city. Everywhere along this river, as along the shores of the Mississippi, from Cairo to the Gulf, there are numberless mounds. So countless are they that many must have been constructed as nilometers, to show the height of successive floods through successive years and ages. But is it not singular that no allusion is made to these artificial hillocks and hills by those who chronicled events of DeSoto's wanderings in America? Is it not certain that races encountered by DeSoto knew as little of these mounds and of their purpose and builders as do dwellers in the swamps of to-day?

An aged Indian, who said his fathers dwelt in Western New York, still lived in Osceola, in Eastern Arkansas, in 1849. He was quite eighty years old when I saw him at the home of Charley Morris (now of Atlantic Place, on the Mississippi), in Fort Pickering, a mile below Memphis. With this venerable Indian and Morris' father, and talking of the traditions of DeSoto as preserved by red men, we ascended the great mound. I asked the old Indian "who executed this great task." At that time there was another mound of great height just across the river, on the Arkansas shore, swept away in 1854-5 by floods of those years. "I cannot tell," he answered, "I cannot tell why this was built and that just opposite over there."

"Most white people think," I suggested, "that Indians reared these great heaps of earth as tombs of chieftains."

"No, no," answered the old man, "we have no tombs. You have plowed over the graves of my fathers. It was the misfortune of my race that we never toiled. We built no mounds, and there are no monuments or books to tell of our brave deeds. I have heard old Indians say that they had heard of the terrible bearded men who marched across this country many, many years ago. They destroyed great numbers of Indians, going far towards the setting sun, fighting and destroying as they went, and as they came back. I used to think that these terrible white men built these strange hills. But I have seen too many of them. They are countless as the stars in that forest beyond the river, and older than the forests that have overgrown them and gone to

decay to be succeeded by other generations of great old oaks like those that stand about us here upon the summit of this great mound."

I published, a few days afterwards, in the *Herald*, a little Memphis paper of the period, a local article of which the above is a substantial copy. If the great picture of the discovery of the Mississippi in the capitol at Washington then existed I had never seen it, but I am now accustomed to contemplate its wonders and blunders. DeSoto, as represented by the artist, appears at the base of this great mound at Memphis of which I was talking. He bestrides a steed, fat, full, sleek and round, as if he had just emerged from Bonner's or Vanderbilt's stables. After a hard winter and fierce fighting, and a fatiguing march from Tupelo, Mississippi, DeSoto's winter quarters, to Memphis, it is hardly probable that the Spaniards came with such regal pageantry and in such gorgeous apparel, or mounted on such a prodigious curvetting steed, in the grim presence of the Chicasaw chieftain. To one at all conversant with the fortunes of DeSoto and his followers, nothing can be more absurd than this fancy sketch. It is needless to say that even if absolute realism in such a picture be impossible, outright absurdities should surely be abhorred. When I have said that artists who would tell of the sad, solemn burial of the resolute, daring adventurer should visit Old Town Lake and contemplate the holy stillness that broods over the motionless water and over the precipitous bluffs and dense, sombre, silent, overhanging forest, and when I have insisted that DeSoto's burial should be painted as it was, and not as vague fancy represents it, I am referred to this great picture on the wall of the rotunda, in which I see a gaily plumed cavalier on a curvetting steed, doing obeisance in the presence of savage royalty. Congressional committees having the matter in charge should see that the picture of DeSoto dead is not as absurd as that of DeSoto living, or as that statue of Columbus hard by, which makes the discoverer a god carrying the world "in the hollow of his hand."

A tasteful and accomplished woman of Huntsville, Alabama, Mrs. Lide Merriwether, whose productions adorn the pages of our choicest publications, owns a statuette, carved with infinite skill and painstaking care out of locust wood, almost as hard as marble. The pediment is of blackjack, much of the bark still adhering to that portion of the base left by the tooth of time. The knight, as represented, wears a plumed Spanish sombrero, and his apparel and straight, short sword is that of a Spanish gentleman in the days of Queen Elizabeth. This statuette is said to have been found in a decayed box full of white sand by a negro, at the base of a mound a few miles below Memphis. It

was sold to Dr. Rodgers in exchange for a calico dress. Of course this bijou of art, only fifteen inches in height, is assumed to be a perfect likeness of DeSoto, and is priceless. It was made, as supposed, by one of DeSoto's followers, while the Spaniards were in tedious winter quarters at Tupelo, brought to Memphis and deposited there, the ingenious wood carver expecting to recover it on his return from the West. Whatever the opinions of archæologists as to its antiquity and authenticity, this old statuette is surely a masterpiece of patient, toiling art, and should be seen by him who would fasten the memory of the form and figure of DeSoto upon stone and iron walls of the Federal capitol. Such a painter, to be employed in such a task, should first bend reverently, when standing at the base of Crowley's Ridge, over the Margin of Old Town Lake. Its waves, driven by soft winds creeping up from the Gulf, sigh an eternal requiem in softly rippling melancholy cadences, over the mortal remains of the marvelous knight.

THE TWANA LANGUAGE OF WASHINGTON TERRITORY.

BY REV. M. EELLS.

To the stranger, as he first becomes acquainted with the language, two peculiarities will probably appear: First, the broad sound of *a*, as in *father*. In one hundred and ninety-six words which I examined, which were taken at random, and which contained five hundred and thirty-eight syllables, this sound occurred one hundred and fifty-nine times, and it occurred in one hundred and seventeen of the words, that is it is found in nearly five-eighths of the words and in about seven-twenty-fourths of the syllables. English words which are adopted into the language sometimes show the same peculiarity; thus the name *Patsy* is sounded *Pahtsy*, and *Boston* becomes *Pahs-tëd*. Second, the constant use of *k*, which is generally deeply guttural, marked in Major Powell's alphabet *k^c*. This sound occurs one hundred and two times in eighty-seven words, out of the same one hundred and ninety-six words.

Letters.—The language contains the following consonant sounds: *b*, *d*, *g*, *h*, *k*, *l*, *m*, *n*, *p*, *s*, *t*, *w*, *y*, *ch*, *hw*, *k^c*, *sh*, *h^c* or *h* guttural. It contains the four sounds of *a* in *mat-mate*, *father* and *law*, the long and short sounds of *e*, *i*, *o* and *u*, and the diphthongs *oi* and *ow*.

Plural.—Nouns form their plurals in two ways: First, by the addition of *obîsh*; thus *man*, *ste-bat*, becomes in the plural *ste-bat-o-bîsh*; *arm*, *cha-lâsh*, *cha-lâsh-o-bîsh*; *arrow*, *tă-ât-sëd*, *tă-ât-*

sĕd-o-bĭsh. Second, by a reduplication of the first or second syllable, with a slight change sometimes apparently for the sake of euphony; thus woman, sla-dai, becomes sĭl-ha-dai; eye, do-klais-a-bût, do-kle-klais-a-bût; foot, i-a-shûd, shi-a-shûd. Some words form their plural in both ways; thus house, si-a, becomes si-a-ho-bĭsh and si-ai-a; and horse, sti-a-ke-o, is sti-a-ke-o-bĭsh and skut-te-a-kai-o. Some plurals are irregular, as boy, ts-chai-ats, becomes kă-äk-u-patl. The reduplication seems to be a shortened way of speaking the word twice.

Gender.—I have learned of no way of distinguishing gender except by prefixing the words for man and woman.

Possessive Case.—This, when regularly formed, is denoted by inserting us-tu between the two words, as a dog's face is written bos-us-tu-sko-bai-a, bos being the word for face; a dog's eye, du-klai-sû-bûs-tu-sko-bai-a, duklaisubud, the word for eye, being in this case contracted.

Adjectives.—I have found no gender among the adjectives, and no superlative case. The comparative case is indicated by prefixing the word klol, meaning more; thus ais-klol is black and klol-ais-klol is blacker; kai-lûb is bad and klol-kai-lûb is worse. I have found no exception to this rule.

Pronouns.—The possessive pronouns are:

Mine, dĭs-da. Ours, sdi-a-batl or sdatl.

Yours, is-da. Yours, is-da-lûp.

His or hers, sda-ûs. Theirs, sda-astl.

In composition they are, however, generally contracted, thus:

My house, dĭs-si-a. Our house, sdia-batl-sia or sdatl-sia.

Your house, is-si-a. Your house, sda-lûp-sia-lûp.

His house, sda-si-a-has. Their house, sda-astl-sia-has.

In joining these pronouns with other words they are occasionally slightly varied for the sake of euphony, and this is more generally true with the plural and third person singular.

¶ *Verbs.*—The present tense is indicated by the prefix bĭs, the past by changing bĭs to tû, and the future by changing it to klĭs. The following example will show the tenses and the persons, the first person singular present meaning I am eating:

Sing. 1. Bĭs-el-tla-chĭd.	Plur. 1. Bĭs-tle-e-tlatl.
2. Bĭs-el-tlach.	2. Bĭs-tle-e-tlatl.
3. Bĭs-el-tlad.	3. Bĭs-tle-e-tlad-ĕtl.

PAST.

Sing. 1. Tû-el-tla-chĭd.	Plur. 1. Tû-tle-e-tlatl.
2. Tû-el-tlach.	2. Tû-tle-e-tlatl.
3. Tû-el-tlad.	3. Tû-tle-e-tlad-ĕtl.

FUTURE.

Sing. 1. Kl̥s-el-tla-ch̥d.	Plur. 1. Kl̥s-tle-e-tlatl.
2. Kl̥s-el-tlach.	2. Kl̥s-tle-e-tlatl.
3. Kl̥s-el-tlad.	3. Kl̥s-tle-e-tlad-ētl.

The present of drinking is:

Sing. 1. B̥s-kā-ch̥d.	Plur. 1. B̥s-kā-tl.
2. B̥s-kāch.	2. B̥s-kā-tl.
3. B̥s-kā.	3. B̥s-kā-wētl.

In placing an object after the verb, it is connected with it by the particles et-te or te, I am eating meat being written b̥s-el-tla-ch̥d-et-te-bae-äts; I am kicking the man, b̥s-to-w̥l-kwa-ch̥d-te-ste-bat.

This language is spoken only by the Twana or Skokomish Indians, a tribe living at the head of Hood's Canal, a branch of Puget Sound. It is considered by other Indians difficult to learn, and very few persons of other tribes understand it.

THE SKWAKSIN DIALECT OF THE N̥SKWALL̥.

In this language one of the most noticeable peculiarities is the short sound of ù, as in but. Out of two hundred and fifty-five syllables, taken at random, it is used in eighty-seven of them, or more than one-third as many as all other vowel sounds. Sometimes it is used interchangeably with the short sound i and o, and the broad sound of a. Different persons will pronounce the same word t̥t or t̥t̥, ch̥d and ch̥d̥, and the same person will also pronounce it thus differently at different times. The letters are the same as in the Twana language, with the addition of j and z.

Plural.—This is formed generally, as far as I know, by reduplication; thus man, stobsh, is sto-bobsh in the plural; boy, sto-tobsh, is sto-to-bobsh; but woman, sla-dai, is sla-d̥i, and duck, h'at-h'at, is the same in the plural.

The gender is formed in the same way as that of the Twana.

Diminutives.—Most of these form regularly, thus:

Man, stobsh.	Boy, sto-tobsh.
Horse, stiakeo.	Colt, sti-tiakeo.
River, sto-lûk.	Creek, sto-tû-lûk.

But some are irregular, as

Deer, ske-gwûts.	Fawn, stûl-la.
Tree, stûk-wûb.	Bush, s-hap.

Adjectives.—These, as in the Twana, have no superlative. They form the comparative by prefixing itl, the word for more; thus, black, he-tots; blacker, itl-he-tots.

Possessive Case.—This is formed by prefixing gwûs to the possessor and annexing the article possessed; thus a horse's face

is spoken, gwûs-stiakeo s-haios; a dog's face, gwûs-skobai s-haios. I know of no exceptions to the rule.

Pronouns.—The personal pronouns are:

I, üt-sa.	We, de-bûtl.
You, dûg-wi.	You, gwûl-la-po.
He, tsûd-dihl.	They, tsa-he-dihl.
She, tût-tsûd-dihl.	

The possessive pronouns are:

Mine, tsû-gwû.	Ours, sgwa-chûtl.
Yours, ûts-gwû.	Yours, sgwa-lûp.
His or hers, sgwas.	Theirs, sgwa-sûl-gwû.

In composition the following forms are used, alûl being the word for house and stiakeo for horse:

My house, tûd-alûl.	Our house, ta-alûl chûtl.
Your house, ta-ûd alûl.	Your house, ta-alûl-lûp.
His or her house, ta-a-lûls.	Their house, alûl-sûlgwû.
My horse, tût-stiakeo.	Our horse, tû-stiakeo-chûtl.
Your horse, ta-ût-stiakeo.	Your horse, tû-stiakeo lûp.
His or her horse, tû-stiakeus.	Their horse, tû-stiakeo-sûl-gwû.

Verbs.—The prefixes o or u are the sign of the present, to or tu of the past, and klo of the future.

The persons are signified by suffixes thus, I am eating, etc.:

Sing. 1. U-a-tlûd-chûd.	Plur. 1. U-a-tlûd-chûtl.
2. U-a-tlûd-chû-hu.	2. U-a-tlûd-chûl-lûp.
3. U-a-tlûd.	3. U-a-tlud-hûl-gwû.

The past tense is the same except that u is changed to tu, and in the future it is changed to klo.

I am drinking is o-ko-kwa-chûd.

Past, first person singular, to-ko-kwa chûd.

Future, first person singular, klo-ko-kwa-chûd.

The object after a verb is connected with it by placing after the verb the particle ûtl, ûlta or tu, and after that the object.

Contractions are, however, quite numerous.

This language is spoken quite extensively by various tribes on Puget Sound, chiefly on the eastern side—the Nisquallys, Squaksons, Puyallups, Port Madisons, and with a little variation by the Snohomish Indians. It is also understood by a number of persons in other tribes and is often used by different tribes for inter-tribal communication.

THE OLALLAM LANGUAGE.

This language, like that of the Twanas, is noted for the broad sound of a, and it also adds the nasal sound n and ng. Out of a hundred words taken at random the latter sound occurs seventy-six times. Words which are common to it and other

languages generally suffer this change; thus *stab*, what, of the Twanas, becomes *stang*, and the proper names of places, *Du-a-ta* and *Kol-sid*, of the Twanas, become *Nu-a-ta* and *Kol-sin*; *Du-wa-mish*, of the Nisqually language, becomes *Nu-wa-mish*; *Di-a* or *Dee-ah Bay*, of the Makahs, becomes *Ni-a*, pronounced *Ne-ah Bay*; and *Qui-nai-elt*, the name of a tribe on the coast, as pronounced by the Clallams, is pronounced by several other tribes *Qui-dai-elt*.

Letters.—These are the same as in the Twana language; *kl* and *tl* are often used interchangeably, and likewise *a* and the short sound of *u*.

Plurals.—These are formed by reduplication; thus *woman*, *stlan-ni*, becomes *stlûn-stlan-ni*.

Gender.—As with the other languages mentioned this is distinguished by prefixing the word for man and woman.

Possessive Case.—This is formed first by placing the word *chu-ul*, then the possessor and lastly the thing possessed; thus a dog's face is spoken *chu-ul-ska-ha sats*; a dog's head, *chu-ul-ska-ha skongi*.

Adjectives.—In this case there is no superlative and the comparative is formed by prefixing the word *kwa-né-hu-u*, meaning more; thus large is *chûk*, larger is *kwa-né-hu-u-chûk*.

Pronouns.—The personal pronouns are:

I, <i>nong</i> ; me, <i>ût-sa</i> .	We, <i>kl-nengl</i> .
You, <i>nûk-wâ</i> .	You, <i>kl-nûk-wâ</i> .
He or she, <i>tša</i> .	They, <i>na-neh-tli-a</i> .

The possessive pronouns are:

My, <i>nis-kwa</i> .	Our, <i>skwa-hl</i> .
Yours, <i>un-skwa</i> .	Your, <i>hlnûk-wa</i> .
His or hers, <i>skwa-ûs</i> .	Their, <i>i-â-sha</i> .

But in composition the following contractions are used, though they vary at times:

My dog, <i>nis skaha</i> .	Our dog, <i>ska-hatl</i> .
Your dog, <i>ûn-skaha</i> .	Your dog, <i>ûn-ska-ya-hai-a</i> .
His or her dog, <i>ska-häs</i> or <i>skwa-skaha</i> .	Their dog, <i>ska-ya-has</i> .

Verbs.—The tense and person are shown mainly by changes in the termination, and can be best understood by the following example: I am eating.

Sing. 1. <i>E-tlins-in</i> .	Plur. 1. <i>E-tlinst</i> .
2. <i>E-tlins-hu</i> .	2. <i>E-tlinst-hwâi-i</i> .
3. <i>E-tlins-a</i> .	3. <i>Ai-e-tlin-sa</i> .

PAST.

Sing. 1. <i>E-tlin-yats-in</i> .	Plur. 1. <i>E-tlin-yast</i> .
2. <i>E-tlin-yats-hu</i> .	2. <i>E-tlin-yats-hwai-i</i> .
3. <i>E-tlin-yats-a</i> .	3. <i>Ai-e-tlin-yats-a</i> .

FUTURE.

Sing. 1. E-tlin-sa-ûn.	Plur. 1. E-tlin-sast.
2. E-tlin-sats-hu.	2. E-tlin-sats-hwai-i.
3. E-tlin-sats-a.	3. Ai-e-tlin-sats-a.

Y after the root is the distinguishing feature of the past and s in the same place of the future, but the third person plural forms by changing the root. The object is connected with the verb by writing after the verb the particle at and then the object.

This language is spoken by the Clallam tribe, who live on Puget Sound, along the southern shore of the Straits of Fuca. Some of the Indians on the northern or British side speak a dialect of the same language. The Lummi Indians, about the northeastern part of the sound, speak another dialect.

THE CHEMAKUM LANGUAGE.

This is now almost a dead language, the tribe as such being extinct. There are only fifteen or twenty of the tribe left. Some of these are intermarried with the whites and some with other tribes, and I have been unable to find more than one pure blooded Chemakum left. There are two families, but they are not pure bloods, and are intermarried with and living with the Clallams, and mainly use that language. A large number of the words which I have collected begin with k, and quite a number of those which are the names of new things which were brought by the whites end in tl, reminding one of the Makah and Mexican languages. The Chemakum tribe formerly lived near Port Townsend, between the Clallams and Twanas, but the language shows no affinity to either.

Letters.—These are the same as those of the Twanas.

Plurals.—That of dog, chi-na-no, is chi-tsin-na-no, and it is the only regular one I have been able to find. All the rest, as far as I have been able to learn, are formed by prefixing the word esa, many; thus boy, tsu-a; boys, esa-tsu-a. If a thorough study of the language were possible, regular plurals might be found.

Pronouns.—The personal pronouns are:

I, lá-atl.	We, má-atl.
You, tsé-a.	You, tsé-yatl.
He or she, ó-a-yi.	They, ái yitl.
In composition, however, with ka-posh, a horse, they say:	
My horse, ka-posh-ûts.	Our horse, ma-a-tla ka-posh-ûts.
Your horse, he-lets-ka-posh-ûts.	Your horse, he-la-ish ta-ka-posh-ûts.

Phrases and Contractions.—Phrases are very common compounded according to no rule, but which have to be learned by power of memory, and these in a great measure take the place

of grammar. In these phrases many contractions take place, and occasional changes of letters, evidently for the sake of euphony.

THE CHINOOK JARGON LANGUAGE.

This was formed mainly by the Hudson's Bay Company, about forty or fifty years ago, as a means of communication between themselves and all the tribes of the northwest coast, by whom many different languages are spoken. It still is used by whites in talking with the Indians, and by different tribes of Indians in conversing between themselves. It is composed of words from various Indian languages, with many from the English and French. It may be said to have no grammar. Plurals are expressed by prefixing the numeral, specifying the number, or the word *hiyu*, meaning many; gender by prefixing the words for man or woman; the same words are used for personal and possessive pronouns, and there is no way of expressing person, number, tense, or mood, except by using the personal pronouns and the words *ahn-kût-tie*, meaning long ago, for the past tense, and *al-ki*, soon, and *by-by*, by and by, for the future. It shows with how little grammar persons can get along. It is spoken by all tribes east of Idaho, and between California, on the south, to Alaska, on the north.


THE YOUNG CHIEF AND THE THUNDERS;
AN OMAHA MYTH.

Translated by Rev. J. Owen Dorsey; and read before the Anthropological Society of
Washington, D. C.

Once there was a great chief, who had many warriors, and also an abundance of possessions. He had one son, who was very lazy, spending his time in eating and sleeping. He did not associate with the men, and he would not speak to a woman. This troubled his father, who said to him, "My child, why do you not act like a man? Men go about, they travel from place to place; they sometimes die away from home. If you would do so, I would be very glad, even though you were to die and be buried in a strange land. I also wish you to take a wife." But the son made no reply; he was sad for some time.

At length he said, "Father, I wish to live in a lodge by myself.

Let my mother make a lodge and also a bed for me. I do not wish any one to enter the lodge." So the lodge was made, and the young man entered it. There he lived for four years, fasting and sleeping, speaking to no person. Once in a while he took very small supplies of food and water, brought to his lodge by his mother.



And it happened, while he fasted, that he thought in his heart, "Let me see: I will wear a garment made of scalps." And a Wakanda or spirit told him that he should do whatever he desired. "You shall go on the war-path. Soon after you leave home, you will reach the lodge of an old-man Thunder." And he told the young man what to do, promising him the garment of scalps. Then the youth called to his father, and asked him to send for some of the young men, as he wished them to go with him on a journey.

So all the men of the tribe were assembled, and the young chief selected his associates. They were a very large company. He told them that they were to go with him on the war-path, which gave them great pleasure. In four days they started on the war-path.

At length they came to an old man who was very poor. He was a Thunder, but none of the party knew that but the chief. And they pitied him, saying, "Let us give him some of our robes and other goods." They did so. Then the old man said, "You think that you have been kind to me. I will be kind to you. I will speak to you about something." When he had said this, a coyote, which was the servant of the old man, and which stood at the door, gave a wink to the chief, who followed him out of the lodge. Said the coyote, "When he tells you to choose one of the four sacred bags, take the old otter skin. All are good, but that is the best." Then the chief and the coyote re-entered the lodge. And the old man said again, "You have been kind to me; and I will be so to you. Which of these four sacred bags will you take? If you wish to return with scalps, etc., in half a day, take the swallow bag. If you select the hawk, you will return in two days with your booty. Should you desire to be away a little longer, take the third. This otter-skin one is good, but it is old and worn." And grasping the otter-skin, the chief said, "Notwithstanding that, grandfather, I will take it." And the old man was in a bad humor, and scolded his servant. "He has told about it."

"No, grandfather," said the chief, "he did not tell me. I chanced to decide so." And the old man gave him a wooden club with the otter-skin bag. "Whatsoever the owner of the otter-skin bag wishes to do, he does it spite of all difficulties. It kills a great many people. If you wish to kill all in any place, whirl this club around your head four times, and at the last time, say 'Kau!!' It will make thunder." The old man knew what the chief desired.

Four days after they met him, the chief sent out four scouts. Returning, they said, "War-chief, we have seen many lodges." "Warriors, that will do." When they reached the village, they said,

"War-chief, we have come to the village. "O, my warriors, I am not seeking that." There were similar occurrences on three successive days. On the fourth day, he sent out scouts again, saying, "Warriors, should one of your grandfathers be there, do not kill him." And the men met a buffalo. After some disputing, one shot it. And the buffalo killed him. The survivors reported this to their chief, who said, "Did I not tell you to beware of harming your grandfathers."

On reaching the body, they buried it, and passed on. The next day, after a similar warning, the scouts attacked a big wolf. Again one was killed. The third day, one was killed by a grizzly bear. And the fourth day, they came to the end of the sky, which passes up and down, very rapidly. It went down each time into a deep chasm in the earth. And the chief said, "Warriors, beware lest you fear it. Let us cross to the other side. Let us leap across the chasm." He was the first to jump over and the rest followed. One failed, and the end of the sky carried him down into the earth. "Come, warriors, let us go," said the chief, "if we wish to be warriors, we must expect to die."

So they went, and went, for days. At last they saw a very high hill, and a dense cedar forest. "Well, warriors, we are going thither. We will then return home." The men had become tired of journeying so far. And four scouts were sent from camp. And when they reached the place, they saw smoke, but no lodge. It was not till the fourth day that the scouts for that day found the lodge, which they all entered. And there sat a very aged man with an unusually large head and plenty of white hair. The old man thought, "Though my brothers may have much trouble by going to so great a distance hunting for game, some men have brought themselves right into this lodge, where I can kill them with ease." The chief thought, "Whew!! I have said I will have a garment of scalps. I think that this is the very thing. I will have it." By and by another old man entered, bringing a black bear.

This old man too had a large head, and his hair was very red.

Then came another old man with yellow hair, bringing a buffalo.

The fourth old man, who had blue hair, brought the body of a man.

And he who had red hair said, "Brother, have these men eaten?"

"No, they have not eaten. Cook ye for them, and cook slices (or ring-shaped slices) of squash," said the one with white hair. And they cooked the dead man's ears for them. "We do not eat such things," said the chief. "If you do not eat such things, what do you eat?" said the old man, pretending that he thought they did not like sliced squash. "Cook ye fine sweet-corn for them," said he, meaning lice.

And when the chief saw what it was, he said, "We do not eat such things." And one of the Thunders said, "Let them cook the bear and buffalo for themselves." And the men were very joyful. Having done their own cooking, they had pleasure in eating. Then it was night.

After the meal, the old man with white hair said, "My grandchild, when a man travels, he has many things to talk about. Tell about yourself." "True, grandfather," said the chief, "you are grown, and an old man, so you must know a great many things. So you can tell about yourself first." "Well, grandchild, though I am an old man, I have nothing to tell about myself; but I will tell you a myth.

"Once upon a time, grandchild, there was an old man; and he lived in a lodge with his three brothers. And his brothers went to a distant part of the country to hunt game; but they returned home at night. And once when the old man was the only one taking care of the lodge, a number of people entered it. And the old man sat and thought, "Though my brothers have undergone much in traveling so far after game, I will kill a great many persons right at home."

And he said, "Come, grandchild, now is your turn." "Yes, grandfather, let *me* tell a myth. Once there was a chief who had several tribes under him. And he had a son, who was very lazy. Though his father frequently urged him to travel, he would not heed him. He had not the least desire to do anything. By and by the son said he was going to fast. So his mother made him a lodge. As he fasted, he thought as follows: 'Let me see: I will wear a robe of scalps.' And the son went on the war-path with a great many followers. And there were four old men who lived together. And the young man and his party went thither. And when they arrived at the lodge, the young leader sat thinking, 'I have said, I will wear a robe of scalps. Truly, this is a good robe; I will have it.' One of the old men had white hair; one had red hair; the third had yellow hair; and the fourth, blue hair."

And the old man laughed at him, "Ha! Ha! Ha! My grandchild, has, I think, guessed the very thing." That night the chief lay with his eye peeping through a hole in his robe, as he wished to watch the old man. He told his followers not to sleep. And while they were lying, the first old man lifted his head very cautiously and looked at the (supposed) sleepers. At last the old man seized the hammer. But at that moment the chief sprung to his feet, whirled his club and at the fourth time, said "Kau!" and killed all four of the old men. "Warriors, arise, and take the hair of all. Take each scalp in one piece." Then they went home. When they reached the end of the sky,

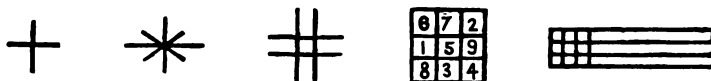
the chief told the warriors to precede him and jump over. He went last of all, and running very fast he made a flying leap, bringing up the man from the ground, and reaching the other side with him, both being alive. Then arriving at the grave of the man killed by the bear, he did in like manner. He ordered each of his followers to jump over the grave in succession. He, himself, was the last to jump; and as he did so, up came the man alive again.

The next day they came to the grave of the man who had been killed by the wolf. He was restored to life in a similar manner, and so was the man killed by the buffalo. Thus it happened that he went home with all his men. As they returned they saw the many villages that they had reported to their chief on their former march. "Well, warriors, you too shall wear robes of scalps," said the chief. So he killed whole villages by whirling his club around his head. He killed altogether the people of four villages, and gave to each of his friends enough scalps for a robe.

And they reached their own village. And all his villages made him head-chief. And he governed them.

SYMBOLICAL GEOGRAPHY OF THE ANCIENTS.

BY REV. O. D. MILLER.



We have no sympathy with that extreme abuse of the principle of symbolism, in the explanation of antiquity, which was so common with Orientalists of half a century ago, and which has created such a powerful reaction, giving rise to the opposite extreme, with the majority of investigators of the present period. There is no principle, perhaps, so liable to abuse as that of symbolism in the interpretation of the ancient systems, in the employment of which, therefore, it is so necessary to adhere constantly to the solid ground of fact, restraining all tendency to mere speculation and unauthorized statement. The strictly scientific method and treatment are the only safety in Oriental studies. The habit of mere oracular statement, so often indulged

in by modern writers, who rarely condescend to cite the proof of their announcements, only excites the indignation of all sober, thorough students. But, on the other side, there was such a thing as symbolic art in antiquity, and those in our day who practically ignore this fact will never get at the truth that lies hidden in the ancient systems. Their intense literalism, never going beyond the crude, exterior symbol, leads them continually to do injustice to the intelligence and moral status of the ancients. There was employed, for instance, very extensively, and from a high antiquity, a system of symbolic geography; and the absence of the knowledge of this fact has given rise to many erroneous conclusions respecting the actual geographical information of the ancients. It is proposed in this article to group together some of the more important facts pertaining to this symbolico-geographical system.

A notable instance of the prevalence of such a system, and in very early times, is afforded by the cuneiform inscriptions, especially the old astrological texts of the elder Sargon. M. F. Lenormant thus alludes to it:

"We have noticed already the system of geography, *essentially symbolical, and inspired by religious conceptions*, which plays a fundamental role, in the Book of Astrology, written and compiled by the orders of Sargon (Sar-gina) the Ancient, nearly two thousand years before our era. He considers the country of *Akkad* (Bib. Accad), or Chaldæa, as situated at the center of the universe, and surrounded by four other countries, which correspond exactly to the four cardinal points: *Ilamu* (Bib. Elam) = East; *Martu* (Phœnicia) = West; *Gutium* (Bib. Goin) = North; and *Subarti* = South. See particularly upon this system the fragments of a tablet, where twelve stars preside over the destinies of each of these regions."¹

The tablet here cited is well known to Assyriologists. It is very fragmentary, containing only one of these lists of stars in a perfect state. It is entitled, 12 *Mul-mes Mat Martu-ki*, "The 12 Stars of the Country of Phœnicia." The phrase *mat martu-ki* here does not refer to the western sky, and there to the stars of the west, but to the *country (mat)* of the west; that is, Phœnicia. This is proved: First, from the title, 12 *Mul-mes Mat Akkad-ki*, "The 12 Stars of the Country of Akkad." The term *mat* denotes "country" here as much in one instance as in the other. Second, from the fact that the 12 stars of *Martu-ki* present an actual zodiacal arrangement, a regular calendar, opening with the sign Gemini, or the zodiacal Twins. We make

1. *Fragments Cosmogoniques de Berosé*, p. 321. For the tablet, see 2d Rawl. Pl. 49, No. 1.

these remarks since this tablet has been often very erroneously understood.²

Returning now to the system of symbolical geography, which entered in Akkad, the capital of the country ruled by the ancient Sargon, we find a peculiar arrangement, properly illustrated by Fig. 3, at the head of this article. The inclosed square, with the sides *oriented*, or facing the cardinal points, denotes the position of Akkad, conceived as situated precisely in the center of the world, and as surrounded by four other countries located in the direction of the four cardinal regions. The interior limits of these four countries, joining upon Akkad, are supposed to be definitely known, while their outer boundaries, being unknown, are not represented in our diagram. As will be seen, Fig. 3 represents the *least unit* of all geographical divisions, like the parallels of latitude and longitude on our terrestrial maps; it is the least unit, also, of all territorial divisions and all centuriations or groups of like squares. This scheme of geography, of which Akkad constituted the center under Sargon's reign, prevailed very widely in antiquity, as we shall see hereafter. But another scheme, equally primitive and prevalent, was that of nine regions, represented by Fig. 4, consisting of nine identical squares. It will be seen that Fig. 4 is the same as Fig. 3, except that the outer limits are all defined, the corners, representing the intermediate points of the compass, all carried out. The two schemes are thus closely related.

But Fig. 4, with nine squares, and in which the nine digits are so arranged as to foot up fifteen in whatever direction they are added, is given by Dr. Bahr as of Hindu origin in his *Mosaic Cultus*.³ As the author states, it was called the "Mythical Square," or "Planetary Seal," and it was intended to represent the *Cosmos*, or "Macrocosm," while the figure of a man engraved upon it denoted the "Microcosm." The number five, in the central square, symbolized the "*Soul of the World*," while the other numbers denoted the eight elements, four male and four female. It must have been, we think, that these eight squares, surrounding the central one, were often put for the eight regions; since the eight regions, celestial or terrestrial, are frequently alluded to in the Hindu and Persian sacred books.

2. The Assyriologist who carefully inspects this tablet will see that the month *Tul-ké*, which is the seventh, is adjusted, in the first line of the tablet, to the star *Ni-bi-ru*, in the third column of stars. Now the star *Ni-bi-ru* is adjusted to the seventh month, *Tul-ké*, in the list of the twelve names of Mercury (3d Rawl. Pl. 53), whose zodiacal arrangement is known. This fact shows that, in our tablet, the second column of months was intended to adjust the second column of stars to the ordinary Babylonian calendar, which opened with the sign Aries. This brings the star *As-kar*, the first of the list, in Gemini, which thus opens the calendar; it brings the star *Sir*, the "Serpent," in Cancer, to which the serpent Hydra corresponds; it brings the star *Nin-makh*, the "Great Mistress," in Virgo, or the Virgin, etc., etc. We have here, then, an old astrological calendar, which opened with Gemini, and it may have been primitively in actual use among the Accadians, or, perhaps, the Phœnicians.

3. *Symbolik des Mosaischen Cultus*, I., p. 158.

But these regions were often represented by right lines crossing each other, instead of by identical squares. In such case, the central square being reduced to a point, the two schemes of division would include four and eight instead of five and nine regions, and this mode is represented by Figs. 1 and 2, at the head of this paper. With the foregoing explanations we are now prepared to introduce other instances of the prevalence of a symbolical geography among the nations of antiquity.

In nearly all the brick inscriptions of the ancient Chaldaean monarchs they take the title of "King of the Four Regions," in allusion to this system of symbolical geography. Thus an inscribed brick of *Amer-Akû* bears the title, *Ungal an ubda sana-ba*, "King of the Four Regions of Heaven," or, perhaps, the "Four Divine Regions," for the phrase is preceded by the determination *an*, "heaven, God," etc. This title, certainly, cannot be construed of the "four races," nor of the "four languages," as has been sometimes done. The same must hold true, we think, of the corresponding Assyrian's *kib-rat ar-bair*, the "four regions." We learn from these data that the elder Sargon, nearly 2000 years B. C., only followed the customs of the old Accadian kings, who had ruled at a much earlier epoch. Indeed, we are able to trace these symbolico-geographical notions to the primitive times of Nimrod. It is now generally understood among Assyriologists that the four cities of Nimrod's kingdom formed a kind of mystical tetrarchy. Referring to upper and lower Chaldaea, Rev. G. Rawlinson remarks that:

"In each of these districts we have a sort of tetrarchy, or special preëminence of four cities, such as appears to be indicated by the words, 'The beginning of his kingdom was Babel, and Erech, and Accad, and Calneh, in the land of Shinar.'"⁴

M. Lenormant also regards this scheme as the prototype of Sargon's system, centering in Accad.⁵ It can hardly be doubted, we think, that the four cities of Assur (Gen. x:11), Nineveh, Rehoboth, Resin and Calah, formed also a mystical tetrarchy.

We seem to have in Elam, and certainly in Aram, of the Mosaic account, centers respectively of groups of five countries, like Accad in Sargon's scheme. In Bomberger's condensed translation of Herzog's Protestant Encyclopædia, Herzog remarks under the name Aram, that "Aram appears after Elam, Assur, Arphaxad, Lud, as Shem's fifth son; and his sons are, Uz, Hul, Gether, Mash. Now Tuch interprets these four names as the termini of the Arameans; Uz, the southern, against the Edomites and Arabs; Hul, the western, against the Canaanites; the unknown Gether (probably *Gutium*, Bib. *Goim*, in Sargon's sys-

4. Five Monarchies, i., p. 15.

5. Frag. de Berosé, p. 323.

tem), perhaps the eastern, against Elam and Assur; lastly, Mash, undoubtedly the northern, against the Japhite Armenians."⁶ We see here that Aram, like Accad in Sargon's scheme, forms the center of five divisions. Elam, also, is associated with four other names, Assur, Arphaxad, Lud and Aram (Gen. x:22), and it is not improbable that these formed still another symbolical group. It is remarkable that *Accad* and *Aram* are terms each signifying "highland," and Dr. Delitzsch attaches the same sense to *Elam*. It is singular to find so many countries with which this notion of "highland" was connected. We shall discover the occasion of it when it is shown that this system of symbolical geography was a traditionary inheritance from the great Asiatic Olympus, the Meru of the Hindus, the conceived first abode of man, and with which a similar geographical scheme was associated. Thus, Accad and Aram, as "highlands," as conceived geographical centers of the world, surrounded by four countries exactly oriented, merely replaced the Paradisiacal Mount of the east as the original "highland" in the symbolical and religious sense of the term.

Having shown the extensive prevalence of this system of geographical ideas in western Asia, we proceed to trace the existence of similar notions among other Asiatic nations. M. Lenormant, following M. Obry and other critics, demonstrates that exactly this method of grouping four countries around a central one, all of them having reference to the cardinal points, was common to the Aryans of India and Persia, and he remarks thus:

"We know that for the Aryans of India this systematic division of the vast region, where they had established themselves, was a reproduction of their symbolical and legendary conception of the world itself, divided into four great islands or continents (*maha-dwipas*), grouped in the direction of the cardinal points, around the central continent (*madhya-dwipa*), where Mt. Meru elevated itself, watered by four rivers descending from it."⁷

Finally, after citing various examples, M. Lenormant observes again:

"To find the origin of the analogy so direct, or better, the identity between the geographical system in the ancient book of astrology of the Chaldeans and these conceptions of India, it is necessary to go back to the common source of primitive tradition respecting the terrestrial paradise, considered as a plateau of a *square figure having its sides turned to the four cardinal points* and surrounded by four other countries also facing the cardinal regions."⁸

6. Prot. Encyc., i., p. 227. Cf. Tuch, Comt. Genesis, 2d Aufl., p. 204. Mash, here, is undoubtedly *Maia*. Ararat, in Armenia, was formerly called Mt. *Maia*.

7. Fragments de Berosé, pp. 321, 322.

8. Ibid.

M. Obry, following the language of tradition, describes this sacred Mount of Paradise, conceived as a mountain plateau of an immense elevation, in exactly the same terms, namely, as having a square figure, its sides oriented and surrounded by four other countries, also oriented. We see here that exactly the same symbolico-geographical ideas associated by the elder Sargon with his capital, Accad, is connected with the traditional Mount of the East, reputed first abode of humanity, and M. Lenormant is undoubtedly justified in tracing the origin of these notions to this sacred mount. Thus, as before remarked, Accad, as "highland," replaces in this system the great Olympus of Asia. This symbolical geography, inspired by religious conceptions, as M. Lenormant has well observed, originally centered in that traditionary abode of primeval humanity from whence the system had been inherited by the various nations of antiquity.

But the scheme of nine divisions, represented by Fig. 4, or the mystical square, was also associated by the Hindus and other peoples with the sacred *Meru*. The Vishnu Purana, in setting forth the geographical system of the seven *Dwipas*, or insular continents, says: "*Jambu-dwipa* is in the center of all of them, and in the center of this continent is the golden mountain *Meru*."⁹ "I have thus briefly described to you, Maitrega, the nine divisions of *Gambu-dwipa*."¹⁰ Thus, among the seven *Dwipas*, comprehending the entire earth, *Jambu-dwipa* is the central one, and exactly in the center of this, corresponding to the central square and the number five in the planetary seal, representing the *Cosmos*, the sacred mountain *Meru* elevates itself, the conceived first abode of man. We see here that this sacred mount was thought to be located exactly in the center of the world, and that it constituted thus the center of the entire system of the symbolical geography of the earth. It was represented by the central square and the number five in the planetary seal, the number five, as before stated, being regarded as symbolizing the soul of the world. Here, centering in this sacred mount, was to be found the least unit of all geographical or territorial divisions. It was the conceived point of departure of all latitudes and longitudes. Accad, Aram and all the other "highlands" of antiquity, were but reproductions, traditionary inheritances from this primitive "highland," this Olympus of all Asia. As this was the conceived center of the world, such was the case also with its various reproductions. Accad, as already stated, was thought to be located exactly at the center of the universe. Similar notions were associated at a later period with Mount Zion in Jerusalem, with the Mahommedan Mecca, and

9. Vishnu Purana, Wilson's Trans., p. 166.

10. Ibid., p. 178.

other sacred localities. Such ideas were no indications of the ignorance of the ancients; they were symbolical and traditionary conceptions, inherited from the sacred Mount of Paradise.

But we note the fact here that these symbolical notions prevailed at a very early period among the Chinese. Dr. Bahr states the following:

"The *entire earth* was divided into *nine* countries; the Emperor was styled the Regent of the *Nine* Earths, and the highest officers of state, the Mandarins, were divided into *nine* orders. The entire kingdom was divided into *nine* provinces, each of which had its ruler; but the middle province, *Ki*, was governed by the Emperor in person, and the palace was located in the center of this province.¹¹

M. Obry shows that the Chinese had inherited also the scheme of *five* divisions, connecting with a central mount, around which were grouped four other mountains, in the directions of the cardinal regions.¹² The Hindus are known to have located four abutting or supporting mountains, always in the direction of the cardinal points, around the central mountain Meru, and no doubt exists that the Chinese derived their symbolical notions from this common source. The division of China into nine provinces and the symbolical conceptions connected with them, as representing the nine earths, date from a high antiquity. The location of the palace in the center of the middle province, *Ki*, was undoubtedly in reference to the situation of Mount Meru, at the center of *Jambu-dwipa*.

Sufficient evidence has been now presented to establish the fact of the wide prevalence in antiquity of a symbolical geography, the origin of which was to be traced to the sacred mount, the reputed abode of the first human pair. Our next attempt will be to show that this geographical system proceeded originally from the Temple, whose fundamental idea was derived from the radical *Tam* or *Tem*, "to cut, to divide." In a previous article on the "Pyramidal Temple," it was shown that the Pyramidal Temples of the Euphrates valley were to be regarded as imitations, as artificial reproductions of the Paradisiacal Mount. In connection with this fact, note the peculiarities of Fig. 5, at the head of the present article, which is the hieratic form of the cuneiform character *Mal*, or *E*, "house, temple." On the left is seen the group of nine squares, corresponding to the planetary seal, whose symbolism has been already explained. But for the full explanation of these matters we have now to study the "Augurial Temple," so-called of the Etrusco-Romans, and the system of land divisions which proceeded from it. But first a remark or two from Dr. Bahr, as follows:

11. Symbolik, etc., i., pp. 12, 13, notes.

12. Du Berceau, etc., p. 48.

"It is a conception not at all peculiar to the Hebrews, but common to all the (ancient) nations and inseparable from their notion of God, even, to represent the world as a building or house of the Deity, and the heaven as his especial dwelling-place. The universe, but in a special sense the heaven, is the real, true Temple, built by the Deity himself, and this as the original Temple constituted the model, the archetype of all those constructed by man. This symbolical character, which attaches generally to the sacred edifice, lends significance to the details of its description, and it affords for us, likewise, a better explanation of its order and arrangement. It falls principally into two chief divisions, of which one (the Holy of Holies) takes in a special sense the name of the whole—the dwelling, the house, or the tent of God. With the Hebrews, accordingly, of the two divisions of the creation itself, the one, the heaven, was regarded as the peculiar abode of the Divinity. By analogy, therefore, it is necessary to regard the especially so-called *dwelling* (Holy of Holies) as an image of the heavens; while the court corresponded to the other chief division of the world, or to the earth."¹³

In fact, Dr. Bahr illustrates the fact at great length and places beyond doubt that, in all antiquity, creation was conceived as a temple, and the temple as an image of creation, and the notions of both proceeded from the fundamental idea of division in this root, *Tam*, or *Tem*. However, this was not the heaven and earth in general, as Dr. Bahr supposed, but the traditional heaven and earth as known to the first men and as associated with and united by the Paradisiacal Mount. Here was the original *cosmos* and here all the cosmogonies primitively centered.¹⁴ Compare here the facts developed in the previous article on the "Pyramidal Temple." Now, as regards the Augurial Temple of the Romans, Dr. Wm. Smith remarks:

"The augur went out before the dawn of day, and, sitting in an open place, with his head veiled, marked out with a wand the *divisions of the heavens*. Next he declared in a solemn form of words the limits assigned, making shrubs or trees, called *tesqua*, his boundary on earth, corresponding to that in the sky.

13. Symbolik, etc., i., pp. 78-79, 94-95.

14. Dr. Bahr proves abundantly that the Hebrews, Romans, and nearly all the ancient peoples, regarded creation as a temple, and the temple as an image of creation, or of the *cosmos*, the two chief divisions of the temple representing the two chief divisions of the *cosmos*, or the heaven and the earth. But Dr. Bahr's great error here, held in common with all writers of his period, was, that the heaven and earth intended regarded the entire expanse of the sky and the entire earth's surface. In point of fact it was the traditional heaven and earth, centering in the Paradisiacal Mount, which was originally referred to, and it was in this mount even that the primitive cosmogony centered. There was symbolism at the base of all these notions. Division, from the root *Tem*, to "divide," like the Hebrew *Bara* (בָּרָא), Gen. i:1, was at the bottom of all (*Bara*, "to cut, divide," thence "to create by cutting, dividing").

The *templum* augural, which appears to have included both (the celestial and terrestrial spaces defined), was divided into four parts."¹⁵

Note here that the Augural Temple includes both a celestial and terrestrial space, regularly bounded, the two placed in direct relation to each other. The number of like squares into which these spaces were cut up varied with different peoples. We pass now to the system of land divisions, on which Dr. Smith observes that:

"As partitioners of land the Agrimensores were the *successors of the augurs*, and the mode of *limitatio* (divisions) was *derived from the old augural method of forming the templum*. The word *templum*, like the Greek *temenos*, simply means 'a division.' * * * The directions were always ascertained according to the true cardinal points. * * * In the case of land surveying the augur looked to the south, for the gods were supposed to be in the north (on the summit of Meru, which penetrated the heavens at the pole), and the augur was considered as looking in the same manner in which the gods looked upon the earth. Hence the main line in land surveying was drawn from north to south, and was called cords, as corresponding to the axis of the world. The line which cut it (at right angles) was termed *decumanus*, because it made the figure of a cross like the numeral X (+). These two lines were produced to the extremity of the ground which was to be laid out, and parallel to these were drawn other lines, according to the size of the quadrangle required."¹⁶

Herr H. Nissen, in a critical work on the Temple, referring to the method of land divisions, remarks:

"The *limitatio* (division) proceeds from the cardinal regions, a line drawn from east to west, cut by another at right angles, drawn from north to south, forms the basis of the system. The first or common form of the limitation (division) is the *centuriation*, or division into like squares."¹⁷

For the reason that any space, divided into squares, according to the cardinal regions, was thereby constituted a *Tem*, or *Templum*, a city or town thus divided became a temple. So the entire territory belonging to the State, being divided into provinces, all lines of division following the direction of the cardinal regions was likewise regarded as a temple. All these divisions, whether of the town or city, or of the entire public domain, centered in the capital and in the national temple. Thus an expansion of the divisions of the temple constituted

15. Dic. Gr. and Ro. Antiq., Art. *Auspitium*.

16. Ibid, Art. *Agrimensores*.

17. Das Templum, pp. 11, 20.

those of the town, a further expansion formed the divisions of the soil, a still further expansion formed the divisions into provinces, and, finally, an expansion of the last constituted the geographical divisions of the earth itself, which corresponded to those of the heavens, all based upon the directions of the cardinal regions. The cosmos itself, therefore, by virtue of these divisions, became a great temple, from the root *Tem*, "to divide." The relation of these ideas to the series of diagrams at the head of this article, and their full significance, will be now clearly perceived by the reader. There can be but little doubt that the Etrusco-Romans derived these doctrines from the Valley of the Euphrates. M. Lenormant, treating upon the augural science of Chaldæa, compared with that of the Etrusco-Romans, observes:

"All these analogies are such that they tend to make us see in the Etruscans the disciples and direct inheritors of the auspices and divinations practiced by the doctors of Chaldæa and Babylon.¹⁸

That the Babylonians had employed the same methods, had inherited the same notions, is seen from the Fig. 5, denoting a temple, and from the other data already presented. But we return now to Fig. 3, as the least unit of all divisions into like squares.

Plutarch describes the Spartan Symbol of the Dioscuri, put for the Zodiacal Twins, or Gemini, as four pieces of wood placed crosswise in the manner represented by our third diagram. Now, Dr. Gustav Schlegel shows that this Spartan symbol had its origin in the Chinese sphere, being there employed as the character *Tsing*, "a pit, a well," for the supply of water. The figure itself referred to the custom, in digging a well, to place four sticks of timber locked around its mouth, to prevent the earth from falling back into the pit, the timber thus placed being represented by our diagram. The asterism *Tsing*, then, corresponding to our Gemini, represented the source of the celestial waters.¹⁹ From the fact that several families were located around a single well, which was used in common, the character *Tsing* took also the meaning of "union, friendship, love," from whence the notion of the Dioscuri, as the brothers *par excellence*. So, also, since the figure formed by these four timbers crossing each other represented the least unit in all divisions into like squares, it became the symbol of all divisions of the soil and of the territory of China. Dr. Schlegel remarks that: "In antiquity *nine* lots of cultivators formed a *well*

18. *La Devination*, p. 120.

19. Vid. Schlegel, *Uranographie Chinoise*, pp. 404-409, 673-681.

(*Tsing*), four wells formed an *enclosure*, and four enclosures formed a *community*.²⁰

Another statement by the same author is equally important. The character *Tsing*, one with our third figure, symbolized a well, and hence water, and at the same time the least unit of Chinese society and division of the soil. Water in a basin was used also for the purpose of taking levels. Dr. Schlegel says:

"Since nothing is comparable to water for leveling, it is for this reason that the constellation *Tsing* is the image of rules for founding the State, for tracing out the plan of the capital, for the demarkation of desert places and for the divisions of the soil."²¹

The character *Tsing*, or our Fig. 3, represents the division into five regions, and the association with it of the division into nine regions appears in the fact that "*nine* lots make a *well*." Compare with this the division of the kingdom of China into nine provinces and the whole earth into nine countries, as stated by Dr. Bahr. These notions are all very ancient, and the similarity of conceptions which we have seen prevailing in high antiquity among nations the most widely separated, proves that they were inherited originally from some common, primitive source. All goes to show that this source was the conceived center of the world, the Mount of Paradise. In the previous article on the "Pyramidal Temple," it was shown that the Chaldeans Pyramid in stages was regarded as an artificial reproduction of the sacred mount of the far east or northeast. The cuneiform character for temple (Fig. 5), in its hieratic form, presents a group of nine squares, like the planetary seal, and the geographical division into nine regions, as well as that into five, was especially associated with the Paradisiacal Mount, as already demonstrated. Thus the previous article and the present go to confirm each other. But the so-called "Stones of Michaux" afford us a direct indication not only that the Babylonian theory of the Temple, but that also of land divisions, was inherited from the sacred mount of the east, the *Khorsak Mat Kurra* of the cuneiform texts.

These stones of Michaux, dating from the twelfth century B. C., were employed as landmarks. They were in the shape of cones, and they were inscribed around the lower portion with deeds of conveyance of the land, of which they marked the boundaries. Around the upper portion of the cones were various images of a celestial character, showing that these landmarks had some astronomical reference. Now, the surface of a cone aptly represents that central region of the heavens around the

20. Ibid, pp. 222-223.

21. Ibid, p. 408.

Pole-Star, and the images on these stones of the constellations Draco or the Northern Serpent, of the Eagle or Vulture, of the Tortoise or Modern Lyre, strongly indicate the express design to represent this polar region of the heavens, which was thought to be penetrated by the summit of the sacred mount. However, the most palpable proof of this design is yet to be presented. Around the apex of these cones we have the eight-rayed star, inclosed in a circle, representing the sun; also the crescent, inclosed in a circle, representing the moon; but more significant than all is a four-rayed star, inclosed in a circle, from the center of which, and flowing in directions intermediate to the four rays, are seen the four sacred rivers of the Celestial Paradise. According to tradition the waters of the heavenly Ganges emptied themselves into the great reservoir on the summit of Meru, which divided them into four streams or rivers flowing down through the three worlds. This figure, then, at the apex of these conical stones represents by its four rays the four celestial regions, and by its four streams, issuing from the center of the circle and flowing in the directions intermediate between the four cardinal regions, it represents the four rivers of the Paradise of the Gods, since the celestial and terrestrial paradises were modeled after each other and were united by the sacred mount.²²

What, now, can these conical stones, used as landmarks, and with these significant figures on their upper surfaces, possibly mean? Evidently the supposed origin of the system of land divisions in the traditional mount of the east, the great Olympus of the primitive world. All the stones of this class at present known, numbering four, and three of them conical, exhibit this significant figure, representing the four rivers of the Celestial Paradise, and the one discovered by Mr. Smith shows also the Pyramidal Temple.²³

For want of space in a single article we have been forced to select a few facts only, from a great abundance, pertaining to our subject, a subject which merits a more thorough and ex-

22. For representations of the conical stones, see 3d Rawl. Pl. 45; Rev. G. Rawlinson's *Five Monarchies*, ii. pp. 573-575; MM. Oppert and Menout, *Documents Juridiques*, etc., pp. 86, 109, 126, 129; Q. G. Smith, *Assyr. Discoveries*, pp. 230, 237, plate. This stone is a flat marble slab instead of a cone, but it has all the figures, rudely engraved upon it, indicating the Pyramidal Temple.

23. The cuneiform student who examines these "Stones of Michaux," as they are termed, will be satisfied that the waving lines drawn intermediate between the four rays, in the figure referred to, can represent nothing else but the four rivers of the Celestial Paradise, modeled after the terrestrial, the two being united by the sacred mount whose summit was thought to penetrate the heavens in the region of the Pole-Star. The fact that these conical stones, then, thus ornamented, represented astronomically this sacred mount, admits of no doubt. M. Lenormant holds that the conical stone, like the Pyramid in stages, was a miniature reproduction of this sacred mount. The use of these stones, therefore, as landmarks indicates plainly that the system of land divisions, itself derived from the Temple, was believed to be a traditionary inheritance from the primitive home of man around the Asiatic Olympus. That the Babylonians, the Etrusco-Romans and even the Greeks, in the west, had preserved distinct recollections of this sacred locality, was fully shown in our article on Gan-Eden.

haustive treatment. Yet we believe we have established the following important points:

1. There prevailed extensively in antiquity, and especially throughout Asia, a system of symbolical geography, dating from a very early period, and originally inspired by religious conceptions.

2. This system had been associated, primitively, with the Asiatic Olympus, the traditionary Mount of Paradise, from whence it took its rise and from whence it had been carried by the cultured races, on their dispersion, to the various countries subsequently colonized by them.

3. This system, whose central idea was that of *division*, was connected with the Temple, on one hand, and with the Cosmos, on the other, both which had also for a central idea the notion of division (Cf. *Tem*, "to divide," and Heb. *Bara*, "to cut, divide," thence "to create," Gen. i:1).

4. That which constituted Creation a Temple, and the Temple an image of Creation, was this principle of division always in the directions of the cardinal regions. The system of land—territorial, geographical, and even cosmical—divisions proceeded alike from those of the Temple by a simple reduplication and expansion, the least unit being that represented by Fig. 3, or perhaps by Fig. 1.

5. As the archetype of all, the Asiatic Olympus united a celestial and terrestrial space, cut off and divided up, like the Augurial Temple of the Romans. This was, in fact, a heaven + earth, a "celestial earth," a notion fundamental in the ancient theory of the state. All the ancient kingdoms, as Dr. Bahr has shown, were regarded as "celestial earths," derived from the original heaven and earth, united by the Paradisiacal Mount. To found a state was to found a new cosmos, a new creation, of which the national temple was the all-converging point.

But we have not the space to extend these generalizations. As will be seen the data which have been presented serve to explain many notions of the ancients which have been attributed, often times, to their ignorance of the true configuration of the earth's surface. In point of fact it is obvious that the system of parallels, of latitude and longitude, was a product originally of this system of symbolical geography, so universally prevalent in antiquity.

THE ARK OF THE HEBREWS.

BY M. C. READ.

Noah's ark, the basket in which the infant Moses was placed, and the "Ark of the Covenant" containing the tablets of the law, the pot of manna, and Aaron's rod, have this in common, that they were designed for the preservation of especial treasures, and they have their counterparts in the religious symbols of all the eastern nations. Like Moses and Noah, Deucalion, Perseus, Dionysus, Adonis, Sargon of Babylon, and Osiris, were preserved in an ark. The ancient Greeks and Egyptians carried in their religious processions, boxes in the form of the ark of the covenant, or baskets like that in which Moses was placed, containing sometimes a god, sometimes a phallus, and sometimes a serpent. The Persian ark had at each extremity a pillar, surmounted with a bull's head, and between these, upon the top of a rainbow-like arch, sat a winged nude human figure, before which a man was kneeling in adoration. Another illustration of the Persian ark was found on a monument near Perseopolis, upon which, at each extremity, were carved what are called the heads of unicorns, a single curved horn appearing on each head; but as side views are given they may more appropriately be called bull's heads. Between and above them is the symbol of divinity, just as in the ark of the covenant Jehovah was represented as dwelling between the cherubs placed upon each end of it.

These cherubs upon each end of the ark of the covenant, were winged creatures, with the heads of a bull or ox. This is clearly indicated by the Prophet Ezekiel. In the first chapter of his prophecy he describes composite four-winged animals seen by him in a vision, each of which had the face of a man, of a lion, of an *ox*, and of an eagle, while in the tenth chapter he describes another vision, of which those same animals were a part, and in repeating a description of them he substitutes the face of a *cherub* for face of an *ox*, thus showing that the prophet understood that the cherub was a bull or ox-headed figure. Indeed, M. Ornes de Bunsen, in a paper read before the London Society of Biblical Archæology, shows that the word *kirub* or *cherub* means a bull, and that the word *seraph* or *ser-apis*, literally the face of the bull, means the same thing, both referring to the constellation Taurus, the one the symbol of its rising, and the other of its setting. Now, if we remember that these ancient nations regarded the earth as a quadrilateral figure, longer from east to west than from north to south, of which idea we have a reminiscence in our word *longitude*, resting upon an illimitable ocean, with a firmament spread out above it, upon

which was the divine dwelling place, we have the clue to the significance of both the Hebrew and Persian ark. Of the latter we have two forms preserved on ancient sculptures, and the description of the latter shows that in its symbolism it was identical with the Persian ark. They both symbolized the world, presided over and governed by the Supreme Deity. The box was of the form of the earth, as they understood it, the cherubs symbolized the extreme east and west, the contents, all valuable things of earth, the cover the firmament, above which dwelt he, whom the Hebrews addressed as "Thou that dwellest between the cherubs."

This ark was in places connected with the rites of phallic worship, as was the box constituting Noah's ark, and the ship which constituted the Chaldean ark, so that both of these were used to symbolize the fruit-bearing womb, in which were preserved and fructified the seeds of all life, as, in early Christian art, they were used to symbolize the church in which the "salt of the earth" was preserved. But the Jewish and Persian symbolism of the ark does not indicate phallic ideas. The ark was with these people a miniature "cosmos," representing their idea of the earth and the heavens and their common ruler. Near it stood the lamp stand, with its seven golden lamps, kept constantly burning, common to the Persians and the Hebrews, symbolizing the seven planets, from which the names of the week days were derived, and from the observance and worship of which, time was first divided into periods of seven days.

THE MASSAWOMEKES.

BY ALBERT S. GATSCHET.

The racial affinity of the Massawomekes cannot be established on historical grounds alone, for these are too scanty, considering the early period of discoveries in which this people is mentioned. All that has a linguistic bearing on the subject must be also carefully examined to arrive at a result.

When, in 1608, Capt. John Smith heard, for the first time, of the above nation, the reports reached him through the tribes settled upon the shores of Chesapeake Bay. These were all of the Algonkin race (excepting, perhaps, a few tribes living on the northern shores), and we may, therefore, expect from them appellations taken from their own dialects, even for tribes of foreign affiliation, as they did, *e. g.*, with the Maquas. We are told by Smith that the Patawomekes, the Patuxents, the Sasquesahannocks and the Tockwoughes implored his assistance against their tormentors, the Massawomekes, and that he had himself

an interview with a party of the latter, who were crossing the head of Chesapeake Bay in seven canoes.

The *names* of these four tribes are certainly Algonkin, and that of the Patawomekes or Potómak's coincides in its termination so closely with that of the Massawomekes, that we can assume the same origin for both. In the majority of the Algonkin languages, a term like *massa* means *large, great*, and *-ek* is either the locative ending, *-ik, -k, -g*, or, more probably, the suffix of the anim. plural *-gi, -ki*, occurring, *e. g.*, in Shawnee; *ome* is supposed by A. L. Guss, Esq., to mean *lake, or water*; *umpe* is *water* in Pamptico, *gami, lake* in Odjibwē, and *somaquone* *water* in Etchemin. *Wome, ome*, also composes the tribal name Patawomeke, for Heckewelder explains it from the Delaware language: "We have come by water." Thus the term *ome* can be ascertained to mean *water*; this would make of the Massawomekes "*those on a great water*," and this was the interpretation of the name given at the time to Capt. Smith.

But, fortunately for us, Smith is not our sole authority upon this northern people. In 1632 Capt. H. Fleet visited the Chesapeake Bay and sailed up the Potomac river to the upper end of navigation; his report is published in Neill's "Founders of Maryland," Albany, 1876. He relates that "the Emperor (of the Powhatans) is fearful to punish the Nascotines (the Anacostias, on and about the present site of Washington, D. C.), because they are protected by the Massomacks or Cannya (Canada) Indians, who have used to convey all such English truck as cometh into the river (Potomac) to the Massomacks." "I find the Indians of that populous place (the Massomacks) are governed by four kings, whose towns are of several names, Tonhoga, Mosticum, Shaunetowa and Usserahak, reported above 30,000 persons, and that they have palisades about the towns made with great trees, and with scaffolds upon the walls." Fleet's brother, a fur-trader, reached the country of the Massawomekes in seven days from the tribal settlement of the Piscataway, on the Potomac, about eighteen miles below Washington, and returned from there in five days; he was told that the Usserahak people counted 7,000 Indians. Capt. Fleet also met a few "Hereckenes, who are cannibals," live three days' journey from the Mosticums, and sell their beaver "at the plantation in Cannida." At this date (1632), the English under Kirk had conquered Canada, and Capt. Fleet identified the axes in possession of the Hereckenes as of the kind Kirk traded in Canada.

From the above we gather a few valuable points, from which conclusions on the affinity of the Massawomekes can be drawn. It appears that Massawomeke is a comprehensive term for a people consisting of four chieftaincies, the names of which are transmitted to us, and can partly be identified with tribes mentioned

by writers of later epochs. The three first-named "towns" traded beaver-skins with the English, and Fleet represents them as being anthropophagists.

The first of these four "towns" Fleet calls *Tonhoga* and *Tohogaes*. There is similarity in name with that of the Tongorias, who are identical with the Eries (Erigas, Erigheks, Ériechronons, Gakwagaono). In the Onondaga term *tchu-éragak*, *wild cat*, the origin of Erie, styled "*gens felina*, *Nation of the Cat*," may still be recognized; they were called so after a wild cat, probably a sort of lynx, which abounded in one district of their wide domain, and supplied them with furs for the trade. The following passages may also be adduced from Pierre Margry, *Découvertes*, vol. I: "they (the Sonnontouans), were told that we came from Onnontio (the French Governor), to see the tribes called by them Toagenha, living (situez) on the river Ohio, and that we requested them to furnish us a slave, as a guide to these parts." (p. 130.) "A prisoner, said to be of the Toaguenhas, spoke Algonkin, but his dialect differed more from the good Algonkin than that of the Outaouacs." (pp. 133-134.) "The Sonnontouans told our Dutch interpreter that he was a fool to act as our guide to the Toaguenha, who were very dangerous people, and would certainly assail us at night, after lurking around our camp-fires; that we would run the danger of meeting the Antastoes along Ohio river, who would most certainly "break our heads," and that on this account the Sonnontouans declined to come with us, lest the extermination of the French may be imputed to them." The distance from their town to Ohio river was unanimously stated to be six days' land travel of twelve leagues each day; but if we travelled by water on lake Erie, we could reach the Ohio by three days' portages (pp. 137-138).—*Report of one of La Salle's travels by the Abbé de Galinée*, 1669-1670. To the name Tonhoga we may also compare that of the Tohoa-irough-roonan, who lived within or north of the Alleghany ridge, perhaps in West Virginia, and whom the Iroquois claimed to have conquered (Treaty of Lancaster, 1744).

Fleet's *Mosticum* were "forest Indians," for, in the eastern Algonkin dialects *mitik*, *me'htug*, *mishtuk*, *matchtok*, is the generic word for *tree*. It still lives in Mystic, a frequent local name on the Connecticut and Massachusetts coasts.

Usserahak is too obscure a name to offer any opportunity for conjectures. It was probably a generic term, for we see from *Wm. Byrd's* Westover Documents, vol. I., that the Catawba towns on the Santee river were also called *Usherees*, although these have nothing in common with Fleet's *Usserahak*. If the term was Iroquois, we might think of *áhshare*, *knife*, as a weapon characteristic of some tribe; *cutlass*, *sword*; *ás'hare* in Mohawk; from this word was formed the name Assarigoe, quoted below.

The *Shaunetowa*, who lived in the town most distant from the Potomac, can, I think, readily be identified with the Tsonnon-towans or Senecas; even now, from historic reminiscence, the Wendot in the Indian Territory call the Mountain (?) Senecas, "who had settled in the Alleghanies of Pennsylvania," Sonotúrunu. Gallinée states (Margry Doc., vol. I., p. 128), that the Sonnontouans were living in four towns, two of them larger than the two others, with a total of about 1,200 warriors, and that this tribe was the most populous of all the Five Nations. These towns lay at considerable distance from each other.

The *Herechenes*, "haughty in their language," were not the friends of the Usserahak, as the latter informed Capt. Fleet. They are the "Hirocois" of Champlain; still we cannot decide whether the Mohawks alone are meant by this term, or other tribes of the eastern part of the Five Nations are included in it.

From all facts stated it becomes apparent that the "Herechenes" were not included in the term *Massawomeke*, but that this term comprehended at least one of the Five Nations, *the Senecas*, and that the three others were allied or confederated with them. Indian history sufficiently proves that it is more natural to suppose racial and linguistic affinity between the four chieftaincies of the *Massawomekes*, than to build them up of tribes of disparate affinities and heterogeneous elements. What we cannot possibly decide now, for want of sufficient information, is whether the three other tribes formed, with the *Shaunetowa*, the four villages of the *Senecas* mentioned by Gallinée, or whether they were scattered all the way from Lake Ontario to the Ohio river, as the name *Tonhoga* seems to indicate.

To assume that the *Massawomekes* were the Shawnees, would be to assume that they had formed an alliance with the *Shaunetowa*, or *Senecas*. It is true that the Five Nations once concluded a treaty with the Governor of Virginia, in which the Shawnees, or a portion of them, are included as a party standing on the side of the Five Nations. But this was *over one hundred years later* than the time we first hear of the *Massawomekes*. By the treaty of Albany, concluded in September, 1722, the Five Nations and their allies engaged themselves not to cross the Blue Ridge (viz., the easternmost ridge of the Alleghanies), nor the Potomac river in a southward direction for any purpose whatever, except when provided with English passes. This section of the treaty runs as follows: "Brother Assarigoe (Gov. Howard, of Virginia): As you engaged for ten nations, so do we, Vizt. (vice versa), for the Five Nations, and for the Tuscaruros, and Connestogoes, Chuanoes, Ochtaghquanawroones, Ostagankees, which live upon Sasquahana river." *William Byrd*, of Westover, Va., *History of the Dividing Line*. Richmond, 1866. Pp. 262, seq. 4to.

CORRESPONDENCE.

A CLOTH ROBE TAKEN FROM A MOUND-BUILDER'S TOMB.

To the Editor of the American Antiquarian :

On the 7th of May, the writer, at the request of Mr. Alfred Eagle, superintended the exploration of (what proved to be) an ancient tomb on the farm of Mr. John Eagle.* The tomb, or superimposed pile of stones, was discovered some years ago, in plowing over the spot, but no examination had been made up to this spring, when one of Mr. Eagle's tenants removed several large stones which obstructed the plow. The evidence of fire, noticeable in their discolored and fragile condition, convinced him that they had been transported to that spot by man.

I found these vestiges situated on a prominent point of the diluvial hills, which form the extreme southern boundary of the great terrace on which Alexandersville is located, and about one mile south of that village. From the point occupied by the tomb, the hills break down in gentle swells, with intervening depressions, into the valley. It cannot be doubted that these ancient people were influenced largely in the selection of their burial sites by the picturesque, and the present instance is not an exception, as the prospect northward is grand.

Our explorations commenced by the removal of six or eight inches of soil, which revealed the stone pile. This we found irregular in form, and about six feet in diameter. The stones were then cast out, all of which were more or less affected by heat, and the greater part were unfit for building purposes, although many of them were large, and required considerable effort to remove them from the excavation. In the progress of this work, Mr. Eagle found in the margin of the pile a grooveless stone axe, but mutilated. At length the margin of the cist was exposed. This was formed in the usual manner, by edging up large flat limestones on the sides and ends of the excavation, forming thus a rough stone box three and a half feet in length, and twenty inches in breadth, inside measurement. I was surprised to discover that no protection had been used in this interment; on the contrary, we found the cist packed full of flat stones. On the removal of these we discovered the following objects: (1) Four teeth neatly perforated near the crown, which was smoothly rounded. Below the perforation they are tapering and curved. They are one inch in length, and uniform in size and shape. (2) A perforated stone of green ribboned shale, four and a half inches long, and one and a half inch broad in the middle, tapering each way in the form of an elongated oval.

*It were to be wished that others could be induced to emulate the praiseworthy example of Mr. Eagle, and thus preserve to science much valuable information which is in many instances wholly lost.

It is flat on one side and convex on the other, and has two perforations bored through from the flat surface, and "counter sunk." Similar forms are occasionally found on the surface, but we rarely meet with one in which beauty of form, and excellence of finish are thus blended. (3) Three mussel shells. These contained nothing but clay, and are very tender. (4) One dark chert arrow point, of the leaf form, square and sharp base, length, $1\frac{1}{2}$ in.; breadth, $\frac{3}{4}$ in. (5) Numerous remnants of bones singularly



distorted by heat. Thus, while some are split lengthwise, with the margins curved inwards, others are flattened. Some are partially cleft, with a splinter curved in the form of a hook. All are distinguished by numerous checks or clefts, while their sound condition is marvelous. Among the numerous specimens of fragmentary bones in my collection from burned mounds, I fail to discover any that possess these peculiar characteristics. (6) An implement, unique in form, and of obscure material. It had been broken into numerous pieces, but the greater part were found and skillfully restored by W. J. Wells. In its present condition it is three and a half inches in length, and three-quarters of an inch at the wider end, from which it tapers to a rounded point. Its thickness is three-sixteenths of an inch, convex on one side, and concave on the other. The form is a regular curve. It very closely resembles glazed pottery.

(7) Among the bits of charcoal handed out, I recognized fragments of what had the appearance of cloth. This conjecture was soon fully confirmed by the discovery (by Mr A. Eagle) of a black mass which had been pressed into the Northwest corner of the tomb, partially concealed by a coat of yellow clay. Here there was a compact mass of cloth five inches in length, four inches in breadth, and two inches in thickness. But the task of removing the adhesive clay from this precious relic, seemed a hopeless one. Nevertheless, after a large expenditure of time and patience, with the aid of a pin, I finally succeeded beyond my expectations.

The garment, which appears to have been square, with a corded border, had been neatly folded just as we fold a piece of muslin. This fortunate circumstance greatly facilitated the work, as the different plies or layers were removed like the leaves of a book. In one instance I succeeded in securing a strip $8\frac{1}{2}$ inches long, and four inches broad. Enclosed in this package was a tassel thirteen inches long, formed of a number of threads neatly bound together at one end, where it is $\frac{3}{4}$ of an inch thick. This ornament very closely resembles a lady's "switch." The presence of this object, together with the light, airy character of the fabric, leads to the inference that we have here the remains of a garment which once adorned the person of some aboriginal lady or princess. This garment was evidently made by hand, and may be accepted, not only as a specimen of handicraft, but of patient toil as well.

The plan adopted may have been, and probably was, as follows: A border, formed of cordage, one-fourth of an inch broad, the size of the contemplated garment, was stretched over pins, which held it in place, which was upright. The chain or warp was put in position by attaching the thread to one of the upper corners. Passing to the lower side, it was wound twice around the cord. This course was pursued to the end. The extra warp on each side would give the exact width of the space between the threads of the warp. The woof cords were woven in as follows: Commencing at the top, a thread evidently attached to a needle was passed across the web, alternately over and under the chain threads, at a distance of a half inch from the cord border, returning on the same thread, and encircling it at every intersection of the warp and woof, thus producing a regular plaited cord, and adding strength to the fabric. The spaces between these woof cords rarely exceed a half-inch, and are singularly uniform, as to parallelism.

The warp threads are all doubled and twisted, and in that form are about equal in quality to our domestic sheeting, of former days. The material is clearly a vegetable fibre, which appears to have been susceptible of any desired subdivision, equal in this respect to hemp or flax. The border cords referred to, were formed by simply pressing together a number of threads to the desired thickness, as no attempt at plaiting or twisting is discernible. The form of burial observed in this case, is so diverse from the prevailing usages recognized in mound sepulture that some doubts are created as to the identity of the actors in these strange rites. But the evidences of antiquity exhibited in the presence of carbonate of lime (patina) on the stone relics, the identity of the objects associated with both forms of interment, and eminently the presence of a textile fabric, fully justify us in referring it to the race of the Mound Builders.

RECAPITULATION. (1) An excavation four and a half feet long east and west, three feet broad, and three feet deep was made. (2) A cist was constructed. (3) Several bodies were cremated, indicated by the discovery of three atlases. But the inadequacy of the evidences of heat, on the sides of the tomb, as compared with the length of time required for the reduction of the bodies, the unchanged condition of the underlying clay, and the delicate ribboned shale relic, prove conclusively that the burning was effected in the open air, and afterwards collected together with the glowing embers and brands, and deposited in the tomb which slightly tinged the sides of the cist, and consumed the cloth subsequently cast in. (4) The cist was then filled with flat stones, on which a pile was superimposed to the full capacity of the excavation. (5) A fire was then built upon the stone pile, and continued until all were more or less effected by it, and many rendered unfit for building purposes. (6) A few feet of earth was then heaped upon it, which completed the ceremony.

Evidences of these after fires are of frequent occurrence in clay mounds, and undoubtedly were a superstitious appendage to their funeral rites, and hence may not, as some suppose, be claimed as proofs in support of a fire telegraph system.

P. S.—Since I dispatched my description of the mound cloth, I have discovered a patch in which the "border cord" is formed by a neatly plaited combination of *three* cords. The fragment from which I made my drawing, which was subsequently engraved, was concealed by the encircling warp, leaving a portion of the ends exposed, as shown in the cut. As this discovery exhibits an attainment in the domestic arts that my description would not suggest, it would be an act of simple justice to the memory of the ancient artizan, to correct the error. With reference to the obscure specimen referred to in my description of the Eagle tomb, I would say here, that the principal objectionable feature to its claims to plastic or ceramic origin is the presence of carbonate of lime, some of which is in the form of "serpulæ."

The enclosed drawings will convey a tolerably clear conception of its form. It must have been considerably longer, as there are several pieces for which we cannot find a place. If pottery, it is the finest specimen I have yet seen. The material is identical in texture and color, with pottery manufactured from Springfield clay. Mr. C. E. Blossom, of the *Miamisburg Bulletin* has no hesitancy in pronouncing it glazed pottery. The glazing, if such it be, may account for the presence of "patina." There is a bare possibility that this unique object may have served as a hair pin.

ALEXANDRSVILLE, O.

S. H. BINKLEY.



To the Editor of the *American Antiquarian*:

Mr. Barber, in his article on the Antiquity of the Tobacco-Pipe, on page 6, Vol. II., No. 1, of the *AMERICAN ANTIQUARIAN*, speaks of two clay pipes found in an Indian grave in Chester county, Pa., with the initials R T stamped in the bowls, which he ascribes to the 17th century, and states that they were probably made by Richard Tyler, a celebrated pipe maker in the vicinity of Bath, during the early or middle part of the 17th century, and in the same volume, No. 2, page 122, he tells of two similar ones found in New York State.

In the collection of this Society is a clay pipe found in Wyoming county, in this state, on the farm of Stephen J. Harding, which may throw some light on the R T pipes. The one referred to is in a good state of preservation, having the bowl and several inches of the stem intact. On the back of the bowl facing the smoker are the letters R T, stamped in before burning, and on one side of the bowl there is a raised round circle, evidently to represent a wreath, in which are the raised letters R. TIPPET, showing that this was in the mould. This pipe was found in the same field with other trinkets, and a medal of George II., and, if they were contemporaneous, would point to a date of at least 100 years subsequent to that described by Mr. Barber. If the pipe be of so late a date, is it not likely that it was made in this country? I refer you to *Pennsylvania Magazine of History and Biography*, No. 2 of Vol. IV., page 195, wherein it is to be seen that as early as 1690, at least "one tobacco pipe maker" was plying his trade in this country.

I send you a sketch of the pipe, which I should be glad to have you forward to Mr. Barber, as it may be of some service in locating his R T pipes.

Trusting that you will pardon me for having so long trespassed on your time, I remain,

Very Respectfully,

HARRISON WRIGHT,

Secretary Wyoming Historical and Geological Society.

WILKES-BARRE, PA., Jan'y 6th, 1891.

PREHISTORIC AND POST-MORTEM TREPANATION.

Presented at the Congress of Anthropology, at the Meeting of the American Association of Scientists, in Boston, on the 26th of August, 1890.

BY C. L. FARQUHARSON, OF DAYENPORT, IOWA.

The specimens which I have the honor to present to the consideration of the section, are as follows, viz.:

1. A rondelle cut from the squamous portion of the temporal bone. It was found in the debris of a mound near Daventry (Clark farm group). It is circular in form, and one inch in diameter; whether it was cut, post or ante, mortem is not known, but probably the former; this was shown at the Detroit meeting (1875).

2. A portion of the vault of a cranium, from which seven circular pieces have been taken. It was found by Mr. W. H. Pratt, in a mound on Pine Tree Creek, Muscatine county, Iowa, and, strange to say, it alone occupied the base of the mound.

3. A skull from which three circular portions of the temporal and parietal bones have been cut away. It was found in 1871, on the farm of Col. Wm. Allen, near Davenport, at the base of the largest of a group of mounds, occupying the crest of an eminence overlooking the Mississippi river. The crania and other bones belonging to at least five different skeletons were found in this mound, but nothing else, the whole of the earth having been removed in the excavation of a cellar.

Of these bones, this skull, and the upper halves of two femora, have lately come into our possession; the thigh bones, besides their abrupt fracture in the middle, have had portions of the upper ends cut off, apparently by some sharp instrument.

The first rondelle mentioned was presented, in 1873, by Dr. Prunières, its discoverer, to the International Congress of Anthropology. It was found in Lozère (France), inside of a skull which had been trephined during life; he exhibited also at that time two other rondelles found likewise in trephined crania.

In 1876, and subsequently, the subject has been considered by the late Dr. Broca, and with the following results:

There were two kinds of prehistoric trepanation, before and after death; the first was practiced on infants and young persons, upon almost every part of the cranium accessible, probably for the relief of nervous disease of a convulsive nature, and was performed by scraping off the periosteum and then the bone. After the death of this person, generally at adult age, circular sections of the skull were made, perforated, ornamented with marks, and worn as amulets; but upon the final burial of this sacred skull, by a "ceremony of restitution," it was supplied with a section of some other skull, to make up the deficiency caused by the removal of one or more rondelles.

Perforated crania in America have been exhibited and described by Mr. Henry Gillman, in a series of skulls from River Rouge, in Michigan, and by Mr. Squier in a skull from Peru.

The Rouge River crania being all perforated at the same point, near the vertex, and the holes being quite small, the operation, which was post mortem, must have had some other end than the cutting of a rondelle or amulet. In the second case, from Peru, the hole was quadrangular, the operation was evidently done during life, and was probably surgical in its nature and ends. It was stated (*Materiaux*, vol. 9, p. 387) by the late Dr. Broca, that he had seen rondelles of the human crania coming from Mexico.

Subsequently Dr. Prunières exhibited several rondelles from the same source. Of these I have, however, seen no description. Until further information, we may conclude that, with a considerable degree of probability, a practice existed among our aborigines of cutting amulets from the skulls of the dead, which were doubtless worn as charms or gree-grees; and that the practice was unlike that which prevailed in Europe in prehistoric times, in not cutting the rondelle from a skull of a person who had been trephined during life, and that no supplementary rondelles have been found supplying the place of those cut out.

AN INSCRIBED FRAGMENT OF POTTERY FROM A MOUND IN ILLINOIS.

To the Editor of the American Antiquarian:

In reply to yours of the 21st inst., will say that the history of the fragment of mound pottery, of which I sent you a sketch, is as follows:

Some two years since Dr. Wm. R. Smith, of this place, opened a mound near the line dividing this county from Union, which lies next north to Alexander county. The mound was located on the top of a hill not far from where the narrow gauge railroad crosses the line.

From this mound he obtained several skulls in an excellent state of preservation, also the fragment of pottery.

A few days since his collection (mostly Missouri mound pottery, with some stones and flint implements from the locality of the mound mentioned above) came into my possession by purchase, the fragment with the rest. The characters which give to the piece its importance are not mere scratches, but are deep and well defined, their edges being sharp and clearly cut.

Some time was spent endeavoring to find the other parts of the vessel, but without success. Dr. Smith is an old resident of Cairo, a man of probity, and one who needs no indorsement in

this community. The piece was shown to me soon after it was found, and on several occasions since, by the Doctor, but our conjectures regarding the characters amount to nothing.

It is possible that some one who has given much attention to the study of ancient inscriptions could decipher their meaning, and thereby open up, at least to some extent, the sealed volume of the vanished races.

Respectfully,

GEO. W. MORSE.

CAIRO, ILL., Feb. 27, 1881.

NOTE BY THE EDITOR.—The characters in this inscription, as drawn by Mr. Morse, resemble the square letters sometimes used by merchants as sales marks, and not unlike the square characters on the axe described by Col. Whittlesey in his pamphlet No. 28, *N. O. and W. R. Historical Society*.

ANTS AS ARCHÆOLOGISTS.

To the Editor of the American Antiquarian :

In the northeastern corner of Arizona, at the mouth of the Cañon of the Rio de Chelly, near the celebrated Arizona "diamond fields," I found, in the summer of 1875, several artificial shell beads on the summit of a large ant hill a foot or more in height. These specimens were as thin as a wafer, circular, and about the diameter of a small sized pea. They had evidently been brought from below the surface by a large species of red ant and placed on the top of the mound. The latter was formed of coarse grains of sand and large numbers of small transparent garnets of a beautiful ruby color, which were much worn and rounded by attrition. In the vicinity were several ruined stone structures, and broken pieces of ancient pottery were abundant on the surface of the ground. Pressure of time prevented us from stopping long enough to make any excavations.

E. A. BARBER.

MODERN PUEBLO INDIANS.

To the Editor of the American Antiquarian :

An interesting little report from the Laguna (New Mexico) *Press*, published by the Rev. John Menaul, under date of May 1st, 1881, has lately been received, which contains the following relative to the religion of the Pueblo Indians:

"To understand the success of our Spanish predecessors, it is necessary to know their mode of working with the people. They did not Christianize them; they merely baptized, married, administered the sacraments and buried them. The Indians retained all their heathenism, and received the rites of Roman-

ism as an addition to their own. In the Roman Catholic church at Laguna, New Mexico, the two sides of the altar, from floor to ceiling, are taken up with Indian symbols, such as are used in Indian dances. The canopy above the altar consists of a painting of the sun, the rainbow, the moon and stars, the chief or heavenly Indian gods, while a few saints' heads are represented as looking over the border at the scene within. On each side of the church are paintings of Indian objects of worship, as trees, plants, flowers, rainbow, animals, etc., representing the minor or lower Indian gods. The back of the altar is occupied with the Roman Catholic objects of worship, as the Virgin, infant Saviour, saints and angels. Thus we have three-fourths of this altar-place, together with two rows the whole length of the body of the church, filled with purely Indian symbols and objects of Indian worship, and only one-fourth of the altar, or one-sixth part of the whole, purely Roman Catholic."

Mr. Menaul also informs me that the Indians still occasionally put out on the hill tops little wooden stakes painted and decorated with feathers, which are designed to represent prayers or thank-offerings to the spirits of air, earth and water. Some of these rudely represent the human form with feather head-dresses, whilst others are made in the form of the cross, showing traces of the early teachings of the Franciscans who accompanied the Spanish conquerors in the sixteenth century. In the vicinity of the Moqui towns, in Arizona, I have also seen painted twigs with feather decorations planted around the borders of springs of water, which undoubtedly bore some religious significance.

E. A. BARBER.

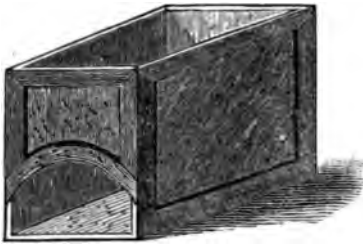
EDITORIAL.

OUR FRONTISPIECE.

The Temple of Zeus at Olympia has been referred to in a preceding number. We are permitted in this number to give a view of it restored. It will be seen that the characteristics of its architecture are the same as those of the temple of Athene at Athens and of the temple at Ephesus. In fact, the building is a typical Greek temple, though perhaps the oldest known. It was the theory of Vitruvius that primitive worship was confined to the groves, and that this form of temple still preserves the shapes of the trees in the columns surrounding the cella and in certain portions of the cornice. It is worthy of remark that the Greek temple was generally surrounded by a grove, and it may be that the Altis of that at Olympia did signify this manner of

worship. We would, however, call attention to the threefold division found in all the temples of the East, namely, the outer court, the inner sanctuary or temple proper, and the inner cella or penetralia. Wherever the origin of this division, whether in Assyria, Egypt or Judea, the fact is remarkable. The Jewish temple is supposed to have been built after a pattern revealed on Mount Sinai, but aside from the pyramidal style of architecture we find in it striking resemblances to the Egyptian temples, especially in the threefold division of the sacred enclosure. The Greek temple is supposed by some to have been derived from the East and to have grown up in connection with the anthropomorphic religion of the Greeks, yet this same feature is found in it. The Egyptian temple had its origin subsequent to the erection of the pyramids, but seems to have been closely connected with the idolatrous and elementary worship of the Egyptians. Why the temple architecture of the three races should have been so different, springing from different religions as it did, and yet should have such analogies, is difficult to explain. Possibly an historical connection existed between the temples at Jerusalem and at Athens and Olympia, and those in Egypt, and so the fundamental features have been borrowed from that country, while the details of architectural finish may have followed the national taste.

NEW DISCOVERIES.



No. 1—FURNACE.



No. 2—ALTAR. Face 40 × 24 inches.

A POTTERY FURNACE AND A CLAY ALTAR FOUND IN MISSOURI. —A few years since, in exploring some mounds in Bolivar county, on Little Mound Bayou, a gentleman found one which seemed entirely composed of broken pottery and ashes. It was regular in form, being 6 feet in height and 105 feet in diameter. Growing on one side of it was a large oak tree, 2 feet 3 inches in diameter. Employing some hands, he proceeded to remove


the debris. Near the level of the surrounding earth were two furnaces. One contained about one-half bushel of mussel shells. It was 35 inches in height from the hearth, 38 inches in length, and 27 in width. It was divided into two parts, the upper being the largest (16 in. deep). The north side of the lower division had an opening to admit wood (see diagram No. 1). The floor or grate that divided the two apartments was $2\frac{1}{4}$ inches thick, with holes $1\frac{1}{4}$ inches wide, and $3\frac{1}{4}$ inches in length, to allow the heat and smoke to pass upward. The ashes in the bottom of this furnace were well mixed with small pieces of shell. The sides were paneled.

The other furnace was 33 inches long, 2 feet wide, and 33 inches in height, with one-third of the top covered over. In the bottom were small pieces of pottery mixed with the ashes, and above them a layer of charcoal. About four feet from this furnace was about two barrels of charcoal in a heap, which was apparently used as fuel. The furnaces were 7 feet 2 inches apart, and faced the north. In building them, weeds, sticks and canes had been mixed with clay, and the whole formed in one piece and burned hard. The outsides were ornamented by pressing canes and sticks against them. He attempted to remove the smallest one, but found it was too rotten.

Facing these, ten feet north, he discovered a mortar and pestle, which had apparently been used to pulverize shells. The mortar was partly filled with them, and near it was a small pile of them. The mortar was made of blue limestone, about two feet square and $9\frac{1}{2}$ inches in thickness, the cavity 13 inches in diameter and $4\frac{1}{2}$ inches in depth. The pestle was greenstone, $11\frac{1}{2}$ inches in length, with a knob on the end $3\frac{1}{4}$ inches in diameter. The thickest part of the handle was $1\frac{1}{4}$ inches in diameter, and tapered gradually to the end. The pestle he left with Mr. John Graham, who resides near. He visited that neighborhood this year, and learned that a Mr. Isaac Powell had removed the larger furnace, mortar and pestle in October, 1876, and shipped them to Cincinnati, O.

Another mound in this group contained an altar made of clay. It was 40 inches in height. The eastern face was flat, the other sides round. The face had an impression upon it, probably representing the sun (see diagram 2). The top was concave, and contained ashes, charcoal and calcined bones. It was as nicely concealed as the furnaces, and no one would have suspected its existence. Other mounds that I opened in this group were all burial mounds, and contained nothing of interest but bones and broken pottery.


Samples of clay from the furnaces were sent to the editor. It seems to be a remarkable find.



ANOTHER CALENDAR STONE FOUND IN MEXICO.—Mr. S. B. Evans, who is now traveling in Mexico as a correspondent of the *Chicago Times*, has made a valuable discovery. At Tezcucó are a number of large mounds, fifty or sixty feet in height, and five hundred feet in diameter. One of these is owned by a native, who uses the base or lower terrace of it for a kitchen garden. In digging this terrace he encountered a stone, which Mr. Evans has found to be a statue, on which is a calendar stone similar to that found by the Spaniards at the City of Mexico. The statue was originally twelve feet in height, but is now in a mutilated condition. It is broken off at the neck and split down the trunk, but still retains the left side and a portion of the body. The left hand of the figure is shown with palm extended. The arm is eleven inches broad at the upper part, and is three feet eight inches long. The calendar, in the form of a circle, six feet in circumference, is below the arm, and is provided with an index, which probably shows the time of the dedication of the statue. On this index is a well-defined Maltese cross. The statue is the largest ever found in this country, and is supposed to represent Quetzatcoatl. Its pedestal was probably in the temple at the summit of the mound, from which the Spaniards hurled it to the base where it was found. The surface of the statue shows marks of violence, but it still retains the usual symbols and hieroglyphics on Mexican statues.

A SILVER AND IRON MASK FOUND IN MISSOURI.—Mr. Hannibal Fox, of Milton, Sullivan county, Mo., wrote us Dec. 5, 1879, in reference to the finding of a mask, made, as he says, of silver and iron, and enclosed a photograph of the same. "Melting silver and iron in a crucible, and preparing a matrix by placing clay over the face after death, and pouring the metal so that the vessel tipped," &c., do not seem to be operations which are usual among the aborigines, or, as far as we know, even among the Mound Builders. The mask was plowed up in a field, and is now in the possession of Mr. Fox.

INDIAN GRAVES IN KANSAS.—We have received an article by Dr. A. H. Thomson, on a recent Indian find near Topeka. The description is that of certain graves, supposed to belong to the Pottawotomies, who had a village at this place some years since. A farmer who has lived near, thinks, however, that the bones belonged to some Crow Indians. For the purpose of ethnology these skulls and skeletons may be useful, especially if they can be identified to a certainty, but, as the measurement of skulls is so difficult, we do not think that any description will be of use to our readers. Two points of interest in Dr. Thomson's observations are, *first*, that the graves were on the brow of a ter-



race, upon the western slope of a large hill, at the foot of which is a deep, wide ravine and a small stream, and *second*, the graves, as is usual among the Indians he says, were perfectly *orientated*.

The first fact is interesting, as it shows that the custom of selecting burial sites were very similar with the Indians and with the Mound Builders. The second is a point on which we shall hope to hear from Mr. Thomson again, as we were not aware that orientating their graves was common among the Indians.

The burial in a recumbent posture was probably the result of the influence of the whites, as previously nearly all burials in so-called graves were either in a sitting posture or in a promiscuous bone heap. The description of silver amulets and other ornaments is interesting, for anything connected with the dress of the Indians as they are, as a matter of record, is valuable. If the societies on the frontiers shall preserve a minute account of all particulars of this kind, they may be doing a service to the future which they do not realize now.

LINGUISTIC NOTES.

EDITED BY ALB. S. GATSCHET, WASHINGTON, D. C.

SHAWNEE.—The four historical divisions of the Shawnee or Sháwano tribe of Indians, as given in their own language, are as follows: (1) Pekuí, or P'kui. (2) Menekut-thégi. (3) Tsalaḡ-gásagi. (4) Kispogō'gi. These divisions must not be confounded with the clans of the tribe, of which there are twelve at least, each of them having members in every one of the four divisions. The first of them, Pekuí, means "ashes," plur., pekuigi; it gave origin to the town of Piqua, in Ohio, where this portion of the tribe was once settled, and probably refers to their "camp-fire." The second division formed the historical "Mackacheek towns," in Logan county, Ohio, destroyed in 1786 by General Logan. To the fourth division belonged Tecumseh and his brother, the prophet. The signification of the other names (besides Pekuí) is not known, but the ending -gi shows that they are given in the plural form. The name Tecumseh is pronounced Tkámthi, Tkám'the, "going across," as, *f. e.*, through the midst of a crowd, or across the path of another person; from netkamáthka, "I go across."

ON the *numeral classifiers* occurring in MAYA, and in the cognate QUICHÉ, of Guatemala, Count Hyacinthe de Charencey has inserted an exhaustive article in the *Revue de Linguistique*, Vol. XIII., pp. 339-386. These "expletives," as he calls them, do not add anything to the meaning of the sentence; they only

show that these Indians are classing the objects of which they speak, into certain concrete categories. In the Maya the author has discovered thirty-three of these classifiers. Another series of classifiers, called "collectives," is more numerous in Quiché than in Maya, and we find here a term for globular, another for flat, disk-shaped, another for pliant objects, others for objects suspended, standing in a file, etc. In this and in many other respects, Quiché shows a more archaic structure than the Maya of the peninsula of Yucatan.

SARAKHOLÉ is the name of an African people inhabiting both sides of the Upper Senegal River, and engaged in commercial pursuits. Its language pertains to the Bambarra stock; all its words end in one of the vowels u, e, i, a, the nouns usually showing the termination e (French é). The pronoun, verb and noun do not inflect for gender, but the noun forms a plural, generally ending in -u. The personal and the possessive pronoun are identical. No cases exist for the inflection of the noun, only postpositions. Nothing seems to have been published upon this Western African language, except the article written for the *Revue de Linguistique*, XIV., pp. 80-96, by General L. Faidherbe, who gives verbal inflections, syntactic examples, and a very curious and instructive war-song of the tribe.

KHASIA is a language spoken in the mountain ridge separating Eastern Bengal from the valley of the Middle Brahmaputra, by 200,000 half-civilized natives. The literary specimens published in this tongue are mainly of a religious character, and were partly transcribed by means of the Bengali alphabet. Khasia, with its six dialects, forms a linguistic family for itself, and is most remarkable on account of forming a transitory stage between the isolating or monosyllabic languages of the Asiatic continent, and the agglutinative order of tongues, as Abel Hovelacque has shown in a very instructive article printed in the *Revue de Linguistique*, XIV., pp. 20-47. Some linguistic specimens are given, with translation and partial analysis, from the Khasia New Testament. Some twenty years ago, Prof. Cuno von der Gabelentz had published a Khasia grammar and vocabulary in German.

GENERAL REVIEW.

ORIGIN OF LAKES.

Prof. J. LeConte, in the *Mining and Scientific Review*, April 10, 1880, says: Lake basins owe their origin to a variety of circumstances. Among these are (1) the remnants of old seas. The so called Caspian and Aral Seas are supposed to have once been portions of the Black Sea. (2) Plateau Lakes, being simple depressions in a nearly uniform surface, *e. g.*, the Equatorial Lakes of Africa, and the Great Salt Lake of Utah. (3) Crater Lakes, many such are found in volcanic regions. (4) Earthquake Lakes. In 1811, an extensive area of ground near New Madrid, Mo., subsided many feet, and gave origin to a lake. (5) Accidental lakes, *e. g.*, lava damming up a stream. (6) Lime sink Lakes—extensive caverns become lakes. (7) Glacial origin, (a) Moraine Lakes; (b) glacial scooped lakes. Mr. A. C. Ramsay maintains that a large portion of the lacustrine basins owe their existence to the erasure of ice glaciers on the rock below. (1) In the Alps, all the large lakes lie in the direct channels of the great old glaciers. (2) The examination of the Map of the World indicates that the further north or south we go the more do lakes increase in number. But Prof. B. Pumpelly maintains that during preglacial times a vast number of rock formed basins over the surface of the continents by the secular disintegration of rocks. Mr. B. D. Oldham maintains (1) that no lake basin exceeding 700 feet in depth or 5 miles in length could owe its origin to glacial action. (2) That no glacier could be pushed *en masse* over 5 miles. Lake Balkal, in Russia, is 1300 feet above the level of the sea, in the midst of steep mountains. Its depth is about 9,951 feet, the height of Mt. Etna. It would have taken a mighty glacier to have scooped such a basin. Yet its great length, 400 miles, renders the action of glacial agencies more possible.

THE ANCIENT MANUFACTURING OF PAPER IN MEXICO.—The report of the Antiquarian Society of Worcester for the year 1880 contains an article by Phillip J. Valentini, in which the author derives, from the study of certain hieroglyphics, the history of paper manufacturing in Mexico. The hieroglyphics are the names of towns in which rolls of paper are discernible, also other signs for numbers, from which the author makes out that certain towns were compelled to pay tribute of paper to the Emperor. The hieroglyphics are found in Lord Kingsborough's collection, especially the Mendoza codex contained therein.

The manufacturing of paper is then described. Quotations from Petrus Martyr, Bishop Landa and from Gomora, the secretary of Hernan Cortez, and others, are given. From these we learn that there were two kinds of paper, one made from the inner bark of a tree and the other from a vegetable pulp, and that certain towns were noted for the production of these two kinds.

The quantity of paper exacted by the Emperor, or rather by the tribe of which the Emperor was the ruler, was immense. The manner of counting in Mexico is by twenties and the multiples of twenty, as, for instance, 400, 8,000, a flag representing 20, a feather representing 400, and a pouch representing 8,000. According to this, 24,000 resmas, equal to 480,000 sheets of paper, were brought yearly to the city of Mexico as tribute. The use of this paper was not all for the national records, though the manner of keeping records by hieroglyphics involved the use of a large amount for this purpose. It appears, however, that captives were decorated in paper before they were immolated, and that in the religious festivals paper in various forms was used. Girls bore cones with paper tassels, noblemen wore rosettes of paper on their foreheads, etc.

The head dresses noticed on some of the statues from Mexico were probably made from paper. Ornaments of paper also formed a part of the dresses of priests. Banners were also made of paper for some of the religious ceremonies. The victims of sacrifice were dressed in paper robes and bore paper banners, and the priests bore large bundles of paper in their hands and other priests bore censers which were decorated with the head and tail of a serpent two or three arms long, made of paper. Mural crowns of paper and mitres of paper were also worn at the sacrifices.

PREHISTORIC MAN IN AMERICA.—The *North American Review* has an article written by Prof. Edwin J. Morse on prehistoric man in America, in which we find the astounding assertion that "the study and growth of the subject of man's high antiquity has been wholly due, not to the *evidences*—for these had been despairingly thrust before the learned societies to be again and again rejected—but to the rapid acceptance of those rational views which recognize man's origin from the animals before him."

This is what we call Darwinism gone to seed. Not the evidences, but an improved theory—the basis of science! The learned societies do not consider facts and reject evidences! Indeed! We supposed that it was the object and the boast of science to deal with facts rather than simple probabilities. Is the view of the antiquity of man given by the discoveries in the gravel beds dependent upon the theory of man's descent from animals? Is this the reason why scientists accept the Neanderthal skull as conclusive evidence of the Simian character of all primitive and prehistoric skulls? And is the evidence of the discovery of the Calaveras skull more conclusive because of the theory?

"Many things may have destroyed the *evidence*, such as the arboreal residence, the destruction of caves and the obliteration of all traces of man!" These excuses would be more fitting if there was less assertion and the theorizer was less confident.

"If deposits older than pleistocene yield a more primitive workshop," why not show it?

If it "does not seem improbable that the single species, man, may be the sole survivor of fossil species now extinct," why not prove it, and not make the probability the basis of theory, as if it were proven?

Really! the naivete of the professor is beyond all compare. We commend the article as a specimen of logic.

EARLY NOTICES OF THE MISSOURI RIVER.—The *Kansas City Review* for June has an interesting article on this subject by John P. Jones, of Keytesville, Mo. The author refers to Marquette and La Salle, but he omits the testimony of the historian of Ferdinand De Soto and that of Cabeza De Vaca before them. The narrative of La Hontan is also entirely omitted. Otherwise than this the article is well worth reading. *Potter's Monthly* for June also has an article on the knowledge of America among the ancients, which gives quotations from various authors, Greek and Latin, showing that the Island of Atlantis, and perhaps the continent of America, were at least suspected to have an existence.

URNS AND BEADS.—Several cinerary urns have been found at Stapenhill England. Some of these urns contained bones which had been cremated. An urn highly ornamented was found near the head of a female skeleton, accompanied with two bronze fibulae and necklace of beads, some of them of glass and some of amber. Another urn, contained a large ivory bead, highly ornamented, and still another contained Saxon pottery beads. These finds were made in a brickyard on the top of a ridge near the valley of the Trent. They were only a foot or two below the surface.—*Report of Burton Archaeological Society*.

NEOLITHS IN CAPE COLONY.—The Cambridge Antiquarian Society reports the finding of Neolithic implements in the diamond fields of Cape Colony, flakes, scrapers, grinders and heavy perforated stone balls. All these were found on the surface. Mounds of shell were found containing rudely ornamented pottery, hammer stones and rubbers.

THE DISCOVERY OF THE BOAT of an ancient sea king is the subject of an illustrated article in the May number of *Popular Science Monthly*. The same facts have been also given more at length by many of the English newspapers. The old Norse sea kings, it appears, ventured across the ocean in much smaller boats than would be considered safe in these days.

ANIMAL ORNAMENTATION in the North is the title of a volume by Dr. Sophus Müller, of the Danish Museum.

DR. EDKINS contributes a paper to the *Journal of the Royal Asiatic Society* for April on the vexed question of the meaning of the Buddhist

"Nirvāna." He very correctly says that widely different views have been held at various periods and by different classes of the disciples of Buddha. On the one hand, the logical conclusion of Buddhist metaphysics requires Nirvāna to mean loss of consciousness or practical annihilation, since consciousness implies activity, which, producing a mixture of good and evil fruit, is the cause of transmigration. To devise a way of escape from this repeated birth was the great problem of both Brahmanic and Buddhist speculations. But on the other hand, the common people, as everywhere, demanded something more tangible than mere speculations. To most of them Nirvāna meant death with an ill-defined notion of some reward for the righteous soul thereafter. Among the more practical Buddhist peoples north of India this idea took shape in Amitabha, a paradise in the far west full of sensuous delights, whither the souls of the faithful are conveyed. The same view prevails in China. Two degrees of Nirvāna are sometimes recognized by the philosopher, the one a high degree of sanctification which may be reached in this life, the other a perfect release from the entanglements of senses, and to be attained only at death.—I. A.

THE same part contains a discussion of the invention of the Indian alphabet, by Prof. Dowson. It is held by most scholars that the alphabets of northern India were primarily derived from Semitic source, and that by the Aryans they were passed over to the Dravidians. Prof. Dowson dissents from the first part of this view and regards them as of Hindu origin. Admitting that the *data* are not sufficient to allow a perfect demonstration of either theory, the writer argues that the researches of the ancient Hindus in language prove them competent to invent alphabetic characters; that the Indian alphabets have peculiar characters of their own, as certain vowels, aspirates, nasals and sibilants; and that the Hindu writing runs from left to right, while the Semitic writing as persistently runs in the opposite direction. The matter must be still considered as *sub judice*.—I. A.

THE last literary work done by the lamented missionary and scholar, Rev. M. A. Sherring, of Benares, was the preparation of a paper on the Prospects of Hindu Caste, which we find in the *Indian Evangelical Review* for October, 1880. No person has studied the subject more profoundly than he, and is therefore more competent to express an opinion regarding it. After depicting in darkest colors the moral and intellectual degradation which caste has brought upon India, Mr. Sherring gives his grounds for thinking that the system is being gradually but surely undermined. The introduction of western science, and above all the teachings of Christian missionaries, are causing a great awakening of the Hindu intellect. Especially is this true in Bengal. Men of education look with contempt upon the superstitious practices of the masses, and in some cases openly oppose them. But no one need be disappointed to find that the caste system cannot be overthrown for a long time to come. This banyan tree which clings with a thousand roots to the soil of ignorance and selfishness cannot be felled at a stroke; rather, its stems will have to be cut away one at a time.

Scholars will be thankful that Mr. Sherring lived to complete his great work on Hindu Tribes and Castes, the third volume of which is in the press.—I. A.

MUCH has been written *pro* and *con* about the evidence which the Rig-Veda can furnish concerning a primitive monotheism among the old Aryans. The latest contribution to the discussion which we chance to have noticed is by the editor in the same review for July, 1880. He argues negatively that, were there no traces of a primitive revelation in the Veda, it would not prove none to have been given, since the composition of the hymns was long subsequent to the beginnings of the race and sufficient time had elapsed for the pure faith to have become debased or wholly forgotten. But the writer thinks that he discerns hints of such a revelation in, 1st, the prominence given in the Veda to sacrifice, and especially in the story of the self-immolation of a god for the Devas or glorified men; 2d, the doctrine of a Mediator as suggested by the office of Agni, the god of fire, whose duty it was to convey the wishes of men to the gods; 3d, the large place which prayer and praise—characteristic of the true religion—occupy in the Vedic

ritual; 4th, the loftier conception of Divinity which appears in Varuna, who is confessedly one of the oldest Aryan deities; 5th, traditions of the Creation in a hymn of the tenth book.

We cannot here examine these arguments, but will only say that they do not impress us as conclusive. There is a dangerous tendency in the interpretation of ancient texts to press into them a meaning which does not belong to them, and there is no better illustration of it than the treatment the Rig-Veda has often received. Still, while claiming that the conceptions of the Vedic poets may be explained on purely natural grounds, we insist that a primitive supernatural revelation is not thereby precluded.—I. A.

TWIN MOUNDS IN JAPAN.—Vol. VIII, Part III, *Transactions of the Asiatic Society of Japan*, contains an important paper by Ernest Sotow upon ancient sepulchral mounds. There are two forms of burial mounds, the circular tumulus, for persons of inferior rank, and the double mound. These twin mounds lie east and west, the west end being square, the eastern round and the middle contracted. The east end contains the tomb, opening south, and is divided into three sections, the outer passage, the sacrificial chapel and the vault. Many of the stones forming the roof are very large. Each mound seems to have been built up in three tiers, on the cap of which was a fence formed by terra cotta pipes for posts and bamboo poles placed in holes in the pipes.

The illustrations resemble Pueblo and Central American specimens.

THE BOOK OF HADES, as carved on the tomb of Seti I., has been translated by M. Lefebvre. This is a record of the lower regions through which the sun was supposed to pass during the hours of the night. Each of the twelve spaces or hours has a name and proper inhabitants, and symbolical doors through which the Sun-God passes in his divine bark. The underworld contained the good and the evil alike, the former to be recompensed by Ra, the latter to be punished by Horus. It has been surmised, however, that the Egyptians believed that this world included the great surrounding sea to the southward and that the sun passed around this underworld to the east again to arise.

THE PHILISTINES.—A sepulchral monument belonging to the time of Usurtasen I., of the Twelfth Dynasty, now in the Louvre, makes mention of Polasta or Philistines as being in the south of Palestine, along with the Hittites, as early as that dynasty, many centuries before Abraham, and it proves true that the Hittites, from whom the patriarch purchased the cave of Macpelah, inhabited the land before his advent.

PADAN ARAM.—A remarkable confirmation of what has been said in a previous number about the journey of Jacob is found in the discovery, by Brugsch Bey, that the Padan Naharaim of scripture was not situated beyond Euphrates, as was supposed, but was a country in the neighborhood of Antioch, watered by the Boutes. An inscription on a tablet belonging to the reign of Amenophis III., makes mention of the daughter of the King of Naharaim. This country has been shown to be the one mentioned by the Assyrian monuments as the one inhabited by the Patinal, the neighbors and kinsmen of the Hittites.

THE TOMB OF HEROD THE GREAT.—Herr Conrad Schick, of Jerusalem, has been trying to find the location of this tomb, and at last has reached the conclusion that it is to be found on the summit of the Frank Mountain, about three and a half miles from Bethlehem.

MEGGIDDO.—In his tent work in Palestine Lieut. Conder proposes to locate this place at a place named Miggeddô, in the plain of Beisar, near the Jordan, instead of at the ancient Legio, in the plain of Esdraelon, where Dr. Robinson locates it.

PITHOM.—Dr. George Ebers and Brugsch Bey have both expressed opinions about this Biblical location, where the children of Israel were reduced to compulsory labor. The Egyptian name was Pi Tum, House of the God Tum. This deity, who was one of the very early objects of veneration representing the setting sun, was symbolized by the human head bearing the crown of upper and lower Egypt. The Egyptians regarded life as

springing out of death and light out of night. This god, first among the gods, was "alone upon the primitive waters." His chief place of worship was Heliopolis, the City of the Sun. Pithom was located in the district of Theken, "inhabited of foreigners, at the entering in of the east," in the eighth Nomos of lower Egypt, near the Bitter Pools, on the Isthmus of Suez. A papyrus of Anastasi VI., the Pithom, lying beside the pools, is called a City of Mempthah (the Pharaoh of the Exodus), in the eastern portion of Goshen, filled with Semitic people, as the name Berkabutha, i. e., pool, a Hebrew word on the papyrus, indicates, agrees with Herr Brugsch's determination of the course taken by the Israelites in leaving Egypt.

THE KUSHITES.—Prof. Lepsius, in a recent work on African philology, has taken the same position which Rawlinson and others have advocated, that the Kushites were the earliest maritime race who extended their migrations along the Red Sea, the Persian Gulf and the Indian Ocean, and were the real ancestors of the Phœnicians. They moved in parallel columns with the ancestors of the Egyptians and Libyans toward the west, followed after a time by the Shemites, but passed by water to Africa and settled in Ethiopia.

THE IMAGE OF ATHENA AGAIN.—This image was found in the ruins of an old Roman house at Athens. It is of Pentellic marble and is armed with helmet, shield and egis. It was found lying on the face at a depth of two feet six inches. Traces of color are on the helmet's plume, on the eyes of the serpent, which serves as a girdle, on the wings of the Gorgon head, on her shield and elsewhere. It is supposed that it is a reduction of the great Chryselephantine statue by Phidias, which was the chief glory of the Parthenon.

THE EXCAVATIONS AT OLYMPIA have been suspended for want of funds. The German Government claim about two thousand pieces of marble, bronze and pottery duplicates, it is said.

A CAST OF THE RUNIC ROCK at Roimsund has been placed in the Stockholm Museum. Besides a long Runic inscription it contains also a group of figures connected with the antique story of Ligura, the dragon-slayer. The second volume of Prof. Thorsen's Runic Monuments of Denmark is now ready.

BOOK REVIEWS.

JOURNAL OF THE TRANSACTIONS OF THE VICTORIA INSTITUTE OR PHILOSOPHICAL SOCIETY OF GREAT BRITAIN. March, 1881. London, E. Stanford, 55 Charing Cross.

The Victoria Institute might properly be called the society of Christian evidence. Its design is to seek for the confirmation of scripture truth, from whatever source that confirmation may come. The researches in the line of archæology render its reports valuable to the specialist whatever his religious belief. It is probable that as much thoroughness of research exists with Christian students as with those who take pride in their skeptical attitude. One is as likely to bring out the truth as the other, for skeptics are as anxious to prove their theories as Christians, and if the tinge of speculation belongs to one side, it does also to the other.

The eight hundred honorable members of this society are not likely to allow arrogance to assert itself in scientific circles without some response. As an offset to the boastful spirit of certain scientists we think that the very argument of numbers will have some weight.

THE FOLK LORE SOCIETY. First and Second Annual Reports. May, 1877 and 1880.

This society is engaged in a splendid work, that of collecting the folk lore of all countries. It has a branch already in India, and the design is to establish a branch in America also.

American mythology, though it bears the tinge of American scenery, as does the Greek, Roman and Scandinavian mythology that of their own land, yet presents many things in common with them. Hence the study of

American tradition should be in connection with that of other lands. Comparison is everything. Folk lore among the aborigines of America also opens a broad field. There are charms to it in a literary point of view. Tradition is fast dying out. The shadows should be caught before they disappear.

INDIAN CORN. By Lewis Sturtevant, LL. D., South Framingham, Mass. Reprinted from the 38th Annual Report of the New York State Agricultural Society, 1878.

This little pamphlet reviews, first, the prehistoric evidences; second, the mythology; third, the *original* varieties; fourth, the variations; and, fifth, the Indian cultivation of corn.

The author has done his work admirably, as the facts are plainly told and no position is carelessly taken. As a contribution to archaeology the pamphlet is valuable and deserves to be printed in a more permanent form than in an agricultural report.

DISCOVERY OF PALEOLITHIC FLINT IMPLEMENTS IN UPPER EGYPT. By Prof. Henry W. Haynes. Reprinted from the Memoirs of the American Academy of Arts and Sciences. Vol. X.

This is a folio pamphlet with four pages letter press and seven pages of photograph or Albrototype cuts.

The existence of a "Stone Age" in Egypt has been disputed, though many drawings of the inscriptions found in tombs and the pyramids would seem to prove the fact, for there are pictures of stone axes in the hands of artisans as plainly as there are bricks in the hands of bricklayers. Prof. Haynes has confirmed the position by discovering, at a point fifteen miles south of Cairo, a number of valuable paleolithic specimens; also, at Luxor, the site of the ancient Thebes of the Hundred Gates, other flaked implements, though he has not yet discovered any of the polished stone.

The cuts represent sixty-one specimens. Some of them are knives of a fine form, others are axes of the St. Acheull type, others lance-heads similar to those found at Le Moustier, others are scrapers, arrow-heads and flakes of various kinds. There is one point to which we would call attention and that is the resemblance which the so-called paleolithics, both of Egypt and of the Valley of the Somme, bear to the relics which are still picked up on the surface throughout the Valley of the Ohio.

The mere form of a relic does not give an idea of the age to which it belongs, if we take the word age in the sense of period or date, though it does show that a rude cultus once existed, and for that matter still exists, throughout the globe, which has been characterized by the use of these implements.

ARCHAEOLOGICAL INSTITUTE OF AMERICA. Second Annual Report, 1880-1881. Presented at the Annual Meeting, Boston, May 21, 1881.

The work done by this society has been distributed over two continents. The most efficient work has been done on this continent, our coadjutor, Ad. F. Bandelier, having carried out some investigations among the Pueblos of New Mexico and in connection with M. Charnay's expedition in Mexico also. The work in the east has been mainly on the site of the ancient Assos. Many difficulties have been experienced and the explorations have not resulted as favorably as could have been wished. The society propose to continue explorations in both places, and will publish the results as soon as practicable.

Mr. Bandelier has made some valuable observations upon the Gentile system of the Pueblo Indians and Mr. W. J. Stillman reports the discovery of a labyrinth at Gnosso and of some ancient characters which evidently belong to a period prior to the use of letters.

HISTORICAL SOCIETY OF NEW MEXICO. Inaugural Address of Hon. W. G. Ritch, President, Delivered before the Society, February 21, 1881, at the "Palace," Santa Fe, New Mexico.

This society, which was organized in 1859, was, in the year 1880, on the date of its twenty-first anniversary, when "it was of age," reorganized, David J. Miller and Louis Felsenthal, two of the members of the old society, having signed the call. The address of the President, delivered at the first annual meeting, is replete with information concerning history,

traditions, archæology and prehistoric remains. The society seems destined to do a work for the region where it is located which will be of great value to future generations.

BULLETTINO DELLA COMMISSIONE ARCHEOLOGICA COMUNALE DI ROMA. Anno IV. Roma, 1881.

The articles in this number are, first, a supplement to the volume on *Corpus Inscriptionum Latinarum*; second, *Di uno Busto di Fancirello Epiziono*. It also contains one page of photographs of the masks discovered and one of lithographs of the busts.

INDIANS. Advanced Sheets from the Twelfth Number of the *Encyclopedia Britannica*.

The author of this treatise takes the position that the Indians were autochthonous, and intimates that they may have been the original stock from which the Asiatic races descended. He thinks that there are no good evidences of a migration into America by way of Behring's Strait. The languages of America he regards as polysynthetic and thinks that a special place should be reserved to the American group. This polysynthetic character he thinks consistent with the theory that the race is autochthonous, though he gives the line of development through the agglutinated Malayan and Dravidian to the polysynthetic American and through the agglutinated Tartar to the inflected Aryan and Semitic.

There is no doubt that the American languages have a "much putting together," and that they belong to a group separate from Mongolian and Malayan, but the science of comparative grammar gives no clue yet as to their affinities, and all speculation as to the origin of the race from this evidence is premature. The primitive speech may have existed in the eastern or in the western hemisphere, but the polysynthetic character of the American furnishes no evidence on this point.

The crania of American Indians have been, it appears, examined by Virchow and others as evidence that two distinct types existed on this continent, but brachiocephalic and dolicocephalic skulls are found indiscriminately mingled together, and no such association with long barrows and short barrows, etc., as appears in England, exists here, and hence craniology is also at present a very uncertain dependence, especially since posthumous deformation is so common.

The conclusion of the author that the texture and color of the hair and the polysynthetic speech are distinctive qualities, is, however, a sound one. "Two cranial forms do not militate against the possible primordial unity of the homo Americanus." The one physical and the one mental quality of the race is the texture and color of the hair and the polysynthetic speech.

The races which the author enumerates are: 1, Hyperborean; 2, Thelinkeet; 3, Columbian; 4, Californian; 5, Shoshone; 6, New Mexican Pueblos; 7, Yuma; 8, Athabaskan; 9, Algonquin; 10, Iroquois; 11, Dakota; 12, Appalachian; 13, Mexican; 14, Guiana; 15, Peruvian; 16, Brazilian; 17, Austral. This division is the one now generally accepted.

Aside from the speculative character of the essay on the subject of the origin of the Indian race, it is a valuable one and one which will probably command the respect of the ethnologists of this country. The author is a member of the Anthropological Institute of Great Britain and represents the advanced stages of thought and study on American archæology and ethnology.

AUS DEN VERHÖRDLINGEN DER BERLINER ANTHROPOLOGISCHEN GESELLSCHAFT SITZUNG, am 19 Feb., '81. Hr. Handelman.

This pamphlet describes some of the prehistoric weapons and pottery now in the museum at Berlin, and contains a page of cuts which shows many points of resemblances between these ancient weapons of Germany and the Mound Builders' relics of this country.

THE TOWNE FAMILY MEMORIAL. Compiled from the New England Historical and Genealogical Register, Boston, Mass., a Public and Family Record, for A. N. Towne, Esq., San Francisco, Cal., by Edwin Hubbard, Chicago, Ill. Chicago, 1880.

The Towne family is one of the few families of New England which did not come over in the May Flower, but which was just as honorable notwithstanding. Practical business sagacity seems to have been its character-

istic, as the large proportion of persons mentioned were engaged in the various occupations, such as milling, hotel-keeping, surveying, railroading, etc.

Mr. A. N. Towne, who is General Superintendent of the Central Pacific Railroad, has shown a commendable spirit in thus securing the record of the business lives of his ancestors. It is not always that the wealth of business men, and especially of railroad men, is as well employed. A monument of marble or a gift to some college would be the fashionable way of perpetuating a name; but here the pen inscribes the name and many are benefited by an honorable mention by virtue of their connection to one who has a proper family pride and has the means of gratifying it. This compilation is, however, also a monument to the author's diligence and thoroughness, and both Mr. Hubbard and Mr. Towne have done credit to themselves by the publication.

THE EPOCH OF THE MAMMOTH AND THE APPARITION OF MAN UPON THE EARTH. By James C. Southall, A. M., LL. D. London, Trubner & Co. 1878.

This work is a supplement to the author's larger work entitled "The Recent Origin of Man." Its object is to show that the position of the archaeologist, generally, in reference to the extreme antiquity of man on earth is incorrect. To this end the author reviews the various discoveries of the tokens of man in the pile dwellings, shell mounds, bone caves, iron, gravel and peat beds in Europe, showing from various evidences that are all comparatively recent.

He then reviews the question as to the disappearance of the various wild animals, such as the reindeer, the mastodon, the mammoth, the rhinoceros, the hippotamus. A third point discussed is that concerning the various upheavals of the earth in Europe, Asia, Australia, South America and North America, taking the position that many of these are of quite recent date.

A fourth point is that of "the three ages." The author thinks that there is no such distinction either in the order of succession nor in the chronological sequence, but that all these kinds of relics are found indiscriminately mingled and that the stone age still exists in each of the continents.

The bronze age, he thinks, had no existence anywhere, and that the distinction between the paleolithic, neolithic and bronze ages, is more a distinction made by archaeologists than one *in re*. There is no gap in the stone age such as some archaeologists claim.

The general conclusion of the author is that the date of man as given by history is as ancient as that given by any prehistoric tokens, and, in fact, the lower stages of society in the localities where prehistoric relics, he thinks, were subsequent to the civilization of which ancient history speaks.

The review of the various tokens of man in Europe is quite thorough, and since the book is much more recent than Lubbock's work, this may be regarded as a good compendium for that subject.

The treatment of the second point, namely, that of the disappearance of animals, is less thorough, and on the fourth is just thorough enough to produce a great deal of confusion in reference to the commonly accepted distinction as to "the ages." It is well, however, to have this side presented, as it will necessitate more careful definition of the terms and more thorough discrimination in reference to the tokens.

It is doubtless true that archaeologists have made a great deal of a few evidences and have assumed their point proven without sufficient evidence. Thus, for instance, the Neanderthal skull and the discoveries in the Valley of the Somme are quoted again and again as proofs of the extreme antiquity, while all other evidences, pro and con, are either ignored or forgotten, and so no progress is made.

Probably as a result of this and other works like it, the subject will take a far broader range hereafter, and if the positions are true they will be proven by more facts and less assertion.

PROCEEDINGS OF SOCIETIES.

The *Antiquary* for May reports the proceedings of the several societies of Great Britain:

The British Archaeological Society.—Among the items we note the discovery of two Roman pottery kilns on West Stow Heath, Suffolk, by W. H. Prigg, also of flint flakes from the northern heights of London. "Roman London" is the subject of a paper by Mr. F. E. Price, F. S. A. Some fine tessellated pavement has been found in Leadenhall street, also the walls of a large building. The thickness ranged from three to twelve feet. These remains are found at a depth of sixteen feet.

A paper read by Mr. C. F. Keary on the Eddaic Mythology also treats of the custom of burning the dead and the beliefs connected therewith among the Teutonic race.

The Anthropological Institute.—A paper by S. E. Peal on "Assam Pile Dwellings," and also one on the "Wild Tribes on the Naya Hills of India." These Angomis have a custom of erecting monoliths for the dead. Prof. Flower reported the discovery of a custom of flattening heads of infants in the Island of Mollicasso of New Hebrides.

Royal Asiatic Society.—Prof. Beal read a paper on the Chinese inscriptions lately discovered at Buddha Gaya.

Rev. S. M. Mayhew recently read a paper before St. Paul's Ecclesiological Society on Baal worship and Baallic practices, maintaining that some of the incantations common in Ireland and Scotland were but the remains of these practices in modern times.

A *Society of Biblical Literature and Exegesis* has been organized in this country. Among the active members are Prof. Short, of Columbia College; Prof. Day, of Yale Theological Seminary; Prof. Mead, of Andover Seminary; Prof. C. H. Toy, of Harvard Divinity School, and others.

The Academy of Science of San Francisco reports some interesting finds of prehistoric relics. Among them is a polished stone axe, which is said to be very beautiful.

The Illinois Archaeological Society, recently organized at Springfield, promises to be very useful.

The American Association meets at Cincinnati Aug. 19.

The Wisconsin Academy of Science and Art met at Appleton July 9.

The American Antiquarian

AND

ORIENTAL JOURNAL.

THE AMERICAN ANTIQUARIAN has now reached the close of the third volume, and we take occasion to address a few words to our patrons. First, allow us to extend our thanks to the many friends who have so generously assisted us in our enterprise. It has been our endeavor to make the magazine an exponent of the best scholarship in all the departments represented, and at the same time a medium of correspondence between the specialists, and, if we have succeeded, it has been by the means of the co-operation of others and their kindly interests in our purpose. It is a matter of congratulation that the magazine has made such progress, and has taken such prominence, and has been everywhere so well received. It has a circulation among the learned societies of this country and Europe, goes into many of the largest libraries in the world, has exchanges with all the leading journals of this country, with magazines devoted to Anthropology and Archaeology in Germany, France, Italy, England, India, Japan, and other foreign countries, and by this means, reaches the specialists in all countries and secures the attention of the learned of all classes. We think that we have been highly favored in this respect, and believe that the advantages which are likely to accrue from these honorable connections are among the most hopeful signs of future success.

Another reason for encouragement, is, that the merging of the ORIENTAL and BIBLICAL JOURNAL into the AMERICAN ANTIQUARIAN, and our giving such prominence to the Oriental Department, has been so generally approved. We have by this change greatly enlarged the sphere of the magazine; have also added to our list of contributors, a large number of the best scholars in Oriental literature and science, and have secured the interest of a much larger circle of readers.

The growth of the magazine in all these respects, has been most cheering. We think that we can say that it is now well established, each of its departments being well manned and its working force being such as to ensure the able character of its contents in the future.

In reference to our subscription list we would also express our obligations. Many have not only sent their subscriptions, but have also taken pains to solicit subscriptions from others, and to all such we are very grateful, but we would respectfully ask, if our subscribers will not all aid us in the same way. It will be much better every way for the magazine if they will do so. We do not expect to make money out of it, but we think that we should have the co-operation of others in its publication as well as its editing, for we believe that a little effort on the part of each, will soon double our subscription, and so enable us to carry out our plans for the improvement of the journal. Subscribers will also greatly facilitate our plans for enlarging and improving the journal if they will notify us at an early date of their purpose to continue their subscriptions.

Respectfully Yours,

STEPHEN D. PEET, *Editor*,

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